This document provides pertinent information concerning the reissuance of the VPDES Permit listed below. This permit is being processed as a Minor, Municipal permit. The discharges result from the operation of a 0.039 MGD wastewater treatment plant and the operation of a water treatment plant with a design flow of 0.008 MGD. This permit action consists of updating the proposed effluent limits to reflect the current Virginia Water Quality Standards, effective 6 January 2011 and updating permit language as applicable. The effluent limitations and special conditions contained within this permit will maintain the Virginia Water Quality Standards of 9VAC25-260 et seq.

1.	Facility Name and Mailing Address:	Woodberry Forest School P.O. Box 10 Woodberry Forest, VA 22989	SIC Code:	4952 WWTP 4941 WTP
	Facility Location:	1.25 miles east of the intersection of Route 15 and Route 230.	County:	Madison
	Facility Contact Name:	Bruce Tibbetts	Telephone Number:	540-672-3900
2.	Permit No.:	VA0027839	Expiration Date:	28 September 2012
	Other VPDES Permits:	Not Applicable		
	Other Permits:	PWSID 6113300 – public water supply Registration ID 3014403 – Underground Storage Tanks (USTs)		
	E2/E3/E4 Status:	Not Applicable		
3.	Owner Name:	Woodberry Forest School		
	Owner Contact/Title:	Bruce Tibbetts / Director of Facilities	Telephone Number:	540-672-3900
4.	Application Complete Date:	2 April 2012		
	Permit Drafted By:	Douglas Frasier	Date Drafted:	21 August 2012
	Draft Permit Reviewed By:	Alison Thompson	Date Reviewed:	
	WPM Review By:	Bryant Thomas	Date Reviewed:	
	Public Comment Period:	Start Date: TBD 2012	End Date:	TBD 2012
5.	Receiving Waters Information:	See **Attachment 1** for the Flow Frequency Determination.		

Outfall 001

Wastewater Treatment Plant

Receiving Stream Name:	Rapidan River	Stream Code:	3-RAP
Drainage Area at Outfall:	244.15 square miles	River Mile:	42.39
Stream Basin:	Rappahannock River	Subbasin:	None
Section:	4	Stream Class:	III
Special Standards:	None	Waterbody ID:	VAN-E13R
7Q10 Low Flow:	6.57 MGD	7Q10 High Flow:	29.8 MGD
1Q10 Low Flow:	5.50 MGD	1Q10 High Flow:	24.2 MGD
30Q10 Low Flow:	9.70 MGD	30Q10 High Flow:	40.1 MGD
Harmonic Mean Flow:	63.3 MGD	30Q5 Flow:	14.9 MGD
303(d) Listed:	Yes – Recreation Use (bacteria)		
TMDL Approved:	Yes		
Date TMDL Approved:	5 December 2007		

Outfall 002

Water Treatment Plant

Receiving Stream Name:	Rapidan River, UT	Stream Code:	3-XEC
Drainage Area at Outfall:	< 1 square mile	River Mile:	0.22
Stream Basin:	Rappahannock River	Subbasin:	None
Section:	4	Stream Class:	III
Special Standards:	None	Waterbody ID:	VAN-E13R
7Q10 Low Flow:	0.0 MGD	7Q10 High Flow:	0.0 MGD
1Q10 Low Flow:	0.0 MGD	1Q10 High Flow:	0.0 MGD
30Q10 Low Flow:	0.0 MGD	30Q10 High Flow:	0.0 MGD
Harmonic Mean Flow:	0.0 MGD	30Q5 Flow:	0.0 MGD
303(d) Listed:	No – Downstream impairment for Recreation Use (bacteria)		
TMDL Approved:	Yes – Downstream		
Date TMDL Approved:	5 December 2007		

6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:

✓	State Water Control Law		EPA Guidelines
✓	Clean Water Act	✓	Water Quality Standards
✓	VPDES Permit Regulation	✓	Other: 9VAC25-860 et seq.
✓	EPA NPDES Regulation		*General VPDES Permit for Potable Water Treatment Plants* (Outfall 002)

7. Licensed Operator Requirements: Class III

8. Reliability Class: Class II

9. Permit Characterization:

✓	Private	✓	Effluent Limited		Possible Interstate Effect
	Federal	✓	Water Quality Limited		Compliance Schedule Required
	State		Toxics Monitoring Program Required		Interim Limits in Permit
	POTW		Pretreatment Program Required		Interim Limits in Other Document
✓	TMDL				

10. Wastewater Sources and Treatment Description:

Wastewater Treatment Plant – Outfall 001

This facility treats domestic wastewater generated from the school facilities, staff homes and kitchen facilities. Wastewater is conveyed to the facility via 8 inch sewer main to the headworks. The headworks consist of a mechanical screen for debris removal with a secondary manual barscreen for use during maintenance. Liquid soda ash is added between the headworks and the equalization tank consisting of three (3) interconnected concrete tanks. Effluent from the EQ tank is pumped to a flow distribution box then into a series of aeration basins consisting of two treatment trains. Each train can operate simultaneously or independently depending on the loading conditions. Flow enters the secondary clarification tanks, tertiary filter (gravity sand filter), UV disinfection and post aeration via cascade steps prior to discharging to the Rapidan River.

This facility recently upgraded the treatment plant. The Certificate to Operate (CTO) was issued on 2 November 2011. See **Attachment 2** for CTO.

Water Treatment Plant – Outfall 002:

Backwash from the three greensand filters, used to remove iron and manganese from the groundwater, is discharged to an unlined lagoon for settling prior to discharging to a dry ditch. This facility discharges approximately every three days.

See **Attachment 3** for the NPDES Permit Rating Worksheet.
See **Attachment 4** for a facility schematic/diagram.

TABLE 1
OUTFALL DESCRIPTION

Number	Discharge Sources	Treatment	Design Flow Max 30-day Flow	Latitude / Longitude
001	Domestic Wastewater	See Item 10 above	0.039 MGD	38° 17′ 18″ / 78° 06′ 42″
002	Industrial Wastewater	See Item 10 above	0.008 MGD	38° 17′ 53″ / 78° 07′ 05″
See **Attachment 5** for the Rapidan topographic map.				

11. Sludge Treatment and Disposal Methods:

Wastewater Treatment Plant:

There is no sludge treatment at this facility, storage only. Sludge is pumped and hauled by a licensed contractor to either the Remington Wastewater Treatment Plant (VA0076805) or the Rapidan Wastewater Treatment Plant (VA0090948) for further treatment and final disposal.

Water Treatment Plant:

Since the lagoon for the water treatment plant was placed into service to capture the backwash water, it has not been necessary to remove the accumulated solids. System operators measure three areas of the lagoon quarterly. When the depth of the solids exceeds twelve (12) inches, a sludge management plan will be submitted to DEQ-NRO.

12. Discharges Located Within Waterbody VAN-E13R:

TABLE 2
DISCHARGES WITHIN VAN-E13R

ID / Permit Number	Facility Name	Type	Receiving Stream
VA0021385	Town of Orange WWTP	Municipal Discharge	Rapidan River
VA0060879	Rapidan Baptist Camp		Rapidan River, UT
VA0053121	Town of Orange WTP	Industrial Discharge	Poplar Run
VAR051419	Town of Orange WWTP	Stormwater Industrial General Permit	Laurel Run/Poplar Run
VAR051416	Madison County Landfill		Rapidan River, UT
VAR051040	American Woodmark		Laurel Run, UT
VAG406450	Rutt David Property	Single Family Home General Permit	Laurel Run, UT

13. Material Storage:

TABLE 3 MATERIAL STORAGE		
Materials Description	Volume Stored	Spill/Stormwater Prevention Measures
Soda ash	Approximately seven (7) 50 lb. bags	Stored under roof inside main building.

14. Site Inspection: Performed by Douglas Frasier on 21 August 2012 (see **Attachment 6**).

15. Receiving Stream Water Quality and Water Quality Standards:

a. Ambient Water Quality Data

The nearest DEQ monitoring station is 3-RAP045.08; approximately 2.3 miles upstream of Outfall 001 located on the Rapidan River at the Route 15 bridge crossing. The nearest DEQ monitoring station to Outfall 002 is 3-RAP037.90; approximately 3.9 miles downstream located on the Rapidan River at the Route 615 bridge crossing.

Recreation Use impairments have been noted due to *E. coli* excursions recorded at both monitoring stations.

The Aquatic Life and Wildlife Uses are considered fully supporting at both monitoring stations.

The Fish Consumption Use has not been assessed at either monitoring station.

The full planning statement is found in **Attachment 7**.

b. Receiving Stream Water Quality Criteria

Part IX of 9VAC25-260(360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving streams, Rapidan River and Rapidan River, UT, are located within Section 4 of the Rappahannock River Basin and designated as Class III waters.

At all times, Class III waters must achieve a dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32° C and maintain a pH of 6.0 – 9.0 standard units (S.U.).

Attachment 8 details other water quality criteria applicable to the receiving streams.

Ammonia:

The fresh water, aquatic life Water Quality Criteria for ammonia is dependent on the instream and/or effluent temperature and pH values. The 90th percentile temperature and pH values are utilized because they best represent the critical conditions of the receiving stream. The previous reissuance utilized ambient water quality data obtained at DEQ monitoring station 3-RAP045.08. While this data is nine years old, it is staff's best professional judgement that it still accurately describes the current conditions of the receiving stream (see **Attachment 9**). Effluent pH data was obtained from the October 2007 – May 2012 Discharge Monitoring Reports (see **Attachment 10**). Staff used a default summer temperature of 25° C and an assumed winter value of 15° C for the effluent since that data was not readily available.

Metals Criteria:

The Water Quality Criteria for some metals are dependent on the receiving stream and/or effluent hardness (expressed as mg/L calcium carbonate). There is no hardness data available for the receiving stream or the facility. Staff guidance suggests using a default hardness value of 50 mg/L $CaCO_3$ for streams east of the Blue Ridge.

The hardness-dependent metals criteria in **Attachment 8** are based on this default value.

Bacteria Criteria:

The Virginia Water Quality Standards 9VAC25-260-170.A state that the following criteria shall apply to protect primary recreational uses in surface waters:

E. coli bacteria per 100 mL of water shall not exceed a monthly geometric mean of the following:

	Geometric Mean[1]
Freshwater *E. coli* (N/100 mL)	126

[1]For a minimum of four weekly samples taken during any calendar month

c. Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9VAC25-260-360, 370 and 380) designates the river basins, sections, classes and special standards for surface waters of the Commonwealth of Virginia. The receiving streams, Rapidan River and Rapidan River, UT, are both located within Section 4 of the Rappahannock River Basin. This section has not been designated with a special standard.

d. Threatened or Endangered Species

The Virginia DGIF Fish and Wildlife Information System Database was searched on 11 April 2012 for records to determine if there are threatened or endangered species in the vicinity of the discharges. The following threatened or endangered species were identified within a 2 mile radius of the discharges: Shenandoah Salamander; Peregrine Falcon; Upland Sandpiper (song bird); Loggerhead Shrike (song bird); Bald Eagle; Green Floater (mussel); and Migrant Loggerhead Shrike (song bird). The limits proposed in this draft permit are protective of the Virginia Water Quality Standards and protect the threatened and endangered species found near the discharge.

16. Antidegradation (9VAC25-260-30):

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The receiving stream, Rapidan River, has been classified as Tier 1 because the treatment plant was constructed prior to the adoption of the Virginia Water Quality Standards on 30 March 1992 and the effluent limitations were derived mathematically to meet water quality standards for dissolved oxygen (**Attachment 11**). The receiving stream, Rapidan River, UT, has also been classified as Tier 1 based on the fact that the critical 7Q10 and 1Q10 flows are 0.0 MGD. Permit limits proposed have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

17. Effluent Screening, Wasteload Allocation and Effluent Limitation Development:

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points are equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards (WQS) are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLAs) are calculated. Where the critical flows 7Q10 and 1Q10 are determined to be zero, as the case with Outfall 002, the WLAs will equal the WQS. The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. Effluent limitations are the calculated on the most limiting WLA, the required sampling frequency and statistical characteristics of the effluent data.

a. Effluent Screening

Effluent data obtained from the permit application and October 2007 – May 2012 Discharge Monitoring Reports (DMRs) have been reviewed and determined to be suitable for evaluation.

b. Mixing Zones and Wasteload Allocations (WLAs)

Wasteload allocations (WLAs) are calculated for those parameters in the effluent with the reasonable potential to cause an exceedance of water quality criteria. The basic calculation for establishing a WLA is the steady state complete mix equation:

$$WLA = \frac{C_o [Q_e + (f)(Q_s)] - [(C_s)(f)(Q_s)]}{Q_e}$$

Where:
- WLA = Wasteload allocation
- C_o = In-stream water quality criteria
- Q_e = Design flow
- Q_s = Critical receiving stream flow (1Q10 for acute aquatic life criteria; 7Q10 for chronic aquatic life criteria; harmonic mean for carcinogen-human health criteria; 30Q10 for ammonia criteria; and 30Q5 for non-carcinogen human health criteria)
- f = Decimal fraction of critical flow
- C_s = Mean background concentration of parameter in the receiving stream.

In the case with Outfall 001, the Water Quality Standards contain two distinct mixing zone requirements. The first requirement is general in nature and requires the "use of mixing zone concepts in evaluating permit limits for acute and chronic standards in 9VAC25-260-140.B". The second requirement is specific and establishes special restrictions for regulatory mixing zones "established by the Board".

The Department of Environmental Quality utilizes a simplified mixing model to estimate the amount of mixing of a discharge with the receiving stream within specified acute and chronic exposure periods. The simplified model contains the following assumptions and approximations:

- The effluent enters the stream from the bank, either via a pipe, channel or ditch.
- The effluent velocity isn't significantly greater (no more than 1 - 2 ft/sec greater) than the stream velocity.
- The receiving stream is much wider than its depth (width at least ten times the depth).
- Diffusive mixing in the longitudinal direction (lengthwise) is insignificant compared with advective transport (flow).
- Complete vertical mixing occurs instantaneously at the discharge point. This is assumed since the stream depth is much smaller than the stream width.
- Lateral mixing (across the width) is a linear function of distance downstream.
- The effluent is neutrally buoyant (e.g. the effluent discharge temperature and salinity are not significantly different from the stream's ambient temperature and salinity).
- Complete mix is determined as the point downstream where the variation in concentration is 20% or less across the width and depth of the stream.
- The velocity of passing and drifting organisms is assumed equal to the stream velocity.

If it is suitably demonstrated that a reasonable potential for lethality or chronic impacts within the physical mixing area doesn't exist, then the basic complete mix equation, with 100% of the applicable stream flow, is appropriate. If the mixing analysis determines there is a potential for lethality or chronic impacts within the physical mixing area, then the proportion of stream flow that has mixed with the effluent over the allowed exposure time is used in the basic complete mix equation. As such, the wasteload allocation equation is modified to account for the decimal fraction of critical flow (f).

Staff derived wasteload allocations where parameters are reasonably expected to be present in an effluent and where effluent data indicate the pollutant is present in the discharge above quantifiable levels. With regard to the Outfall 001 discharge, ammonia as N is likely present since this is a WWTP treating sewage. As such, **Attachment 12** details the mixing analysis results and **Attachment 8** presents the WLA derivation for this pollutant.

The receiving stream at Outfall 002 is considered to have a 7Q10 and 1Q10 of 0.0 MGD. As such, there is no mixing zone and the WLA is equal to the C_o.

c. Effluent Limitations – Toxic Pollutants

9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Those parameters with WLAs that are near effluent concentrations are evaluated for limits.

The VPDES Permit Regulation at 9VAC25-31-230.D. requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges.

1). Ammonia as N:

Staff has concluded, given the calculated ammonia criteria and subsequent limit derivation, that an ammonia limitation is not warranted for Outfall 001 (**Attachment 13**). This is the same conclusion derived during previous permit reissuances.

2). Total Residual Chlorine:

Chlorine is no longer utilized for disinfection at the wastewater treatment plant; therefore, limitations are not warranted for Outfall 001.

The potential exists that chlorine may be present in the water treatment plant's discharge at Outfall 002; therefore a monthly average and maximum limitation of 0.011 mg/L for chlorine is proposed, as set forth in the *General Permit for Potable Water Treatment Plant Facilities*.

3). Metals/Organics:

Given the wastewater sources, it is staff's best professional judgement that limits are not needed.

d. Effluent Limitations and Monitoring, Outfall 001 – Conventional and Non-Conventional Pollutants

No changes to Dissolved Oxygen (D.O.), Biochemical Oxygen Demand-5 day (BOD_5), Total Suspended Solids (TSS) and pH limitations are proposed.

Dissolved Oxygen and BOD_5 limitations are based on a mathematical model dated 29 October 1972 (**Attachment 11**) and are set to meet the water quality criteria for D.O. in the receiving stream.

It is staff's practice to equate the Total Suspended Solids limits with the BOD_5 limits since the two pollutants are closely related in terms of treatment of domestic sewage.

pH limitations are set at the water quality criteria.

E. coli limitations are in accordance with the Water Quality Standards 9VAC25-260-170.

e. Effluent Limitations and Monitoring, Outfall 002 – Conventional and Non-Conventional Pollutants

No changes to pH and Total Suspended Solids (TSS) are proposed and reflect those limits found in the *General Permit for Potable Water Treatment Plant Facilities*, 9VAC25-860.

Total Residual Chlorine maximum limitations will be reduced from 0.016 mg/L to 0.011 mg/L while the monthly average will be changed from 0.008 mg/L to 0.011 mg/L. Please refer to Section 18 for an explanation.

f. Effluent Limitations and Monitoring Summary

The effluent limitations are presented in the following tables. Limits were established for BOD_5, Total Suspended Solids, pH, Dissolved Oxygen and Total Residual Chlorine for each respective outfall.

The limit for Total Suspended Solids is based on Best Professional Judgement and 9VAC25-860.

The mass loading (kg/d) for monthly and weekly averages were calculated by multiplying the concentration values (mg/L), with the flow values (in MGD) and then a conversion factor of 3.785.

Sample Type and Frequency are in accordance with the recommendations in the VPDES Permit Manual.

The VPDES Permit Regulation at 9VAC25-31-30 and 40 CFR Part 133 require that the facility achieve at least 85% removal for BOD and TSS (or 65% for equivalent to secondary) at Outfall 001. The previous permit required influent BOD monitoring on an annual basis to demonstrate 85% removal. The facility is achieving > 85% removal efficiency.

18. Antibacksliding:

The backsliding proposed with this reissuance conforms to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, 9VAC25-31-220.L. and 40 CFR 122.44.

During the last reissuance, the Total Residual Chlorine limitations were calculated incorrectly for Outfall 002. Staff compared the limitations found in 9VAC25-860 with those derived during this reissuance (**Attachment 14**) and concluded that the limitations found in the *General Permit for Potable Water Treatment Plant Facilities* are more stringent and will be applied.

19a. Effluent Limitations/Monitoring Requirements for Outfall 001:

Design flow is 0.039 MGD.
Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Weekly Average	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/D	Estimate
pH	3	NA	NA	6.0 S.U.	9.0 S.U.	1/D	Grab
BOD_5	3,5	30 mg/L 4.4 kg/day	45 mg/L 6.6 kg/day	NA	NA	1/M	Grab
Total Suspended Solids (TSS)	2	30 mg/L 4.4 kg/day	45 mg/L 6.6 kg/day	NA	NA	1/M	Grab
Dissolved Oxygen (DO)	3,5	NA	NA	6.8 mg/L	NA	1/D	Grab
E. coli (Geometric Mean) *	3	126 n/100 mL	NA	NA	NA	1/W	Grab

The basis for the limitations codes are:

1. Federal Effluent Requirements
2. Best Professional Judgement
3. Water Quality Standards
4. DEQ Disinfection Guidance
5. Stream Model – **Attachment 11**

MGD = Million gallons per day.
NA = Not applicable.
NL = No limit; monitor and report.
S.U. = Standard units.

1/D = Once every day.
1/W = Once every week.
1/M = Once every month.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.
Grab = An individual sample collected over a period of time not to exceed 15-minutes.

* Samples shall be collected between the hours of 10 A.M. and 4 P.M.

19b. Effluent Limitations/Monitoring Requirements for Outfall 002:

Maximum Flow of this Industrial Facility is 0.008 MGD.
Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/M	Estimate
pH	3,4	NA	NA	6.0 S.U.	9.0 S.U.	1/M	Grab
Total Suspended Solids (TSS)	2,4	30 mg/L	NA	NA	60 mg/L	1/M	Grab
Total Residual Chlorine	2,4	0.011 mg/L	NA	NA	0.011 mg/L	1/M	Grab

The basis for the limitations codes are:

1. Federal Effluent Requirements
2. Best Professional Judgement
3. Water Quality Standards
4. 9VAC25-860 et seq.

MGD = Million gallons per day.
NA = Not applicable.
NL = No limit; monitor and report.
S.U. = Standard units.

1/M = Once every month.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.
Grab = An individual sample collected over a period of time not to exceed 15-minutes.

20. Other Permit Requirements:

Permit Section Part I.B. contains quantification levels and compliance reporting instructions.

9VAC25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

21. Other Special Conditions:

a. 95% Capacity Reopener. The VPDES Permit Regulation at 9VAC25-31-200.B.4. requires all POTWs and PVOTWs develop and submit a plan of action to DEQ when the monthly average influent flow to their sewage treatment plant reaches 95% or more of the design capacity authorized in the permit for each month of any three consecutive month period. The facility is a PVOTW.

b. Indirect Dischargers. Required by VPDES Permit Regulation, 9VAC25-31-200 B.1. and B.2. for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.

c. O&M Manual Requirement. Required by Code of Virginia §62.1-44.19; Sewage Collection and Treatment Regulations, 9VAC25-790; VPDES Permit Regulation, 9VAC25-31-190.E. The permittee shall maintain a current Operations and Maintenance (O&M) Manual. The permittee shall operate the treatment works in accordance with the O&M Manual and shall make the O&M Manual available to Department personnel for review upon request. Any changes in the practices and procedures followed by the permittee shall be documented in the O&M Manual within 90 days of the effective date of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.

d. CTC, CTO Requirement. The Code of Virginia § 62.1-44.19; Sewage Collection and Treatment Regulations, 9VAC25-790 requires that all treatment works treating wastewater obtain a Certificate to Construct prior to commencing construction and to obtain a Certificate to Operate prior to commencing operation of the treatment works.

e. Licensed Operator Requirement. The Code of Virginia at §54.1-2300 et seq. and the VPDES Permit Regulation at 9VAC25-31-200.C., and Rules and Regulations for Waterworks and Wastewater Works Operators (18VAC160-20-10 et seq.) requires licensure of operators. This facility requires a Class III operator.

f. Reliability Class. The Sewage Collection and Treatment Regulations at 9VAC25-790 require sewage treatment works to achieve a certain level of reliability in order to protect water quality and public health consequences in the event of component or system failure. Reliability means a measure of the ability of the treatment works to perform its designated function without failure or interruption of service. The facility is required to meet reliability Class II.

g. Notification Levels. The permittee shall notify the Department as soon as they know or have reason to believe:

1). That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:

   a) One hundred micrograms per liter;

   b) Two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter for antimony;

   c) Five times the maximum concentration value reported for that pollutant in the permit application; or

   d) The level established by the Board.

2). That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:

   a) Five hundred micrograms per liter;

   b) One milligram per liter for antimony;

   c) Ten times the maximum concentration value reported for that pollutant in the permit application; or

   d) The level established by the Board.

h. Sludge Reopener. The VPDES Permit Regulation at 9VAC25-31-220.C. requires all permits issued to treatment works treating domestic sewage (including sludge-only facilities) include a reopener clause allowing incorporation of any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the CWA. The facility includes a sewage treatment works.

i. Sludge Use and Disposal. The VPDES Permit Regulation at 9VAC25-31-100.P; 220.B.2., and 420 through 720, and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on their sludge use and disposal practices and to meet specified standards for sludge use and disposal. The facility includes a treatment works treating domestic sewage.

j. Materials Handling/Storage. 9VAC25-31-50.A. prohibits the discharge of any wastes into State waters unless authorized by permit. Code of Virginia §62.1-44.16 and §62.1-44.17 authorize the Board to regulate the discharge of industrial waste or other waste.

k. TMDL Reopener. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL that may be developed and approved for the receiving stream.

22. Permit Section Part II. Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

23. Changes to the Permit from the Previously Issued Permit:

a. Special Conditions:

- The Metals Investigation Plan condition was removed with this reissuance since the permittee completed the investigation during the last permit term.
- The Sludge Reopener and Sludge Use and Disposal were included with this reissuance since the permittee no longer land applies the generated sludge.
- The Sewage Sludge Management Plan was removed since the sludge is no longer land applied by the permittee.

b. Monitoring and Effluent Limitations:

- The Sewage Sludge Annual Production Monitoring requirement was removed since the facility no longer land applies the generated sludge.
- The Sewage Sludge Chemical Limitations and Monitoring Requirements were removed since the facility no longer land applies the generated sludge.
- The Soil Monitoring Requirements was removed since the facility no longer land applies the generated sludge.
- The annual Influent BOD sampling was completed during the last permit term and was removed with this reissuance.
- The Total Residual Chlorine limits at Outfall 002 were corrected during this reissuance and reflect those found in 9VAC25-860.
- The Total Residual Chlorine limits at Outfall 001 were removed since the facility changed disinfection to ultraviolet.
- *E. coli* limits were included with this reissuance at Outfall 001 since the disinfection was changed to ultraviolet. This is consistent with the current VPDES Permit Manual.

24. Variances/Alternate Limits or Conditions: None.

25. Public Notice Information:

First Public Notice Date: TBD 2012 Second Public Notice Date: TBD 2012

Public Notice Information is required by 9VAC25-31-280 B. All pertinent information is on file and may be inspected and copied by contacting the: DEQ Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193; Telephone No. (703) 583-3873; Douglas.Frasier@deq.virginia.gov. See **Attachment 15** for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action and may request a public hearing during the comment period. Comments shall include the name, address and telephone number of the writer and of all persons represented by the commenter/requester and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given. The public may request an electronic copy of the draft permit and fact sheet or review the draft permit and application at the DEQ Northern Regional Office by appointment.

26. 303 (d) Listed Stream Segments and Total Maximum Daily Loads (TMDL):

E. coli monitoring on the Rapidan River finds a bacterial impairment, resulting in an impaired classification for the Recreation Use. A Bacteria TMDL was completed and approved on 5 December 2007. All upstream discharges were accounted for and included in the TMDL. Outfall 001 has a WLA of 6.78E+10 cfu/year for *E. coli*. Outfall 002 does not have a WLA since the pollutant of concern is not expected to be present in this discharge.

27. Additional Comments:

Previous Board Action(s):	None.
Staff Comments:	None.
Public Comment:	No comments were received during the public notice.
EPA Checklist:	The checklist can be found in **Attachment 16**.

Fact Sheet Attachments

Table of Contents

Woodberry Forest School Wastewater Treatment Plant
VA0027839
2012 Reissuance

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER DIVISION
Water Quality Assessments and Planning
629 E. Main Street P.O. Box 10009 Richmond, Virginia 23240

SUBJECT: Flow Frequency Determination
Woodberry Forest School - VA#0027839

TO: Jeff Talbott, NRO

FROM: Paul E. Herman, P.E., WQAP

DATE: May 10, 2002

COPIES: File

This memo supersedes my February 27, 1997, memo to Doug Stockman concerning the subject VPDES permit.

The Woodberry Forest School operates two outfalls. Outfall 001 discharges to the Rapidan River and outfall 002 discharges to an unnamed tributary of the Rapidan River. Stream flow frequencies are required at these sites for use by the permit writer in developing effluent limitations for the VPDES permit.

Outfall 001:

The VDEQ operated a continuous record gage on the Rapidan River near Ruckersville, VA (#01665500) from 1942 to June 1995, and from October 1998 to present. The gage is located at the U.S. Route 29 bridge in Madison County, VA. The flow frequencies for the gage and the discharge point are presented below. The values at the discharge point were determined by drainage area proportions and do not address any withdrawals, discharges, or springs lying between the gage and the outfall.

Rapidan River near Ruckersville, VA (#01665500):

Drainage Area = 114 mi^2

1Q10 = 3.97 cfs — High Flow 1Q10 = 17.5 cfs — 30Q10 = 7.0
7Q10 = 4.75 cfs — High Flow 7Q10 = 21.5 cfs
30Q5 = 10.8 cfs — HM = 45.7 cfs — HF30Q10 = 29
Annual Average = 156 cfs

Rapidan River at outfall 001 discharge point:

Drainage Area = 244.15 mi^2

1Q10 = 8.50 cfs (5.50 mgd) — High Flow 1Q10 = 37.5 cfs (24.2 mgd)
7Q10 = 10.2 cfs (6.57 mgd) — High Flow 7Q10 = 46.0 cfs (29.8 mgd)
30Q5 = 23.1 cfs (14.9 mgd) — HM = 97.9 cfs (63.3 mgd)
Annual Average = 334 cfs (216 mgd)

30Q10 = 15.0 cfs (9.7 MGD

The high flow months are December through June.

HF 30Q10 = 62 cfs (40.1 MGD

Outfall 002:

The USGS Rapidan Quadrangle topographic map shows the discharge from outfall 002 enters a dry ravine. The flow frequencies for dry ravines are 0.0 cfs for the 1Q10, 7Q10, 30Q5, high flow 1Q10, high flow 7Q10, and harmonic mean.

If you have any questions concerning this analysis, please let me know.

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
NORTHERN REGIONAL OFFICE
13901 Crown Court, Woodbridge, Virginia 22193
(703) 583-3800 Fax (703) 583-3821
www.deq.virginia.gov

Douglas W. Domenech
Secretary of Natural Resources

David K. Paylor
Director

Thomas A. Faha
Regional Director

November 2, 2011

Madison County
Woodberry Forest WWTP Improvements
PTL#25426, Permit VA0027839

Mr. R. Bruce Tibbetts
Director of Facilities
898 Woodberry Forest Rd
Woodberry Forest, VA 22989

Dear Mr. Tibbetts:

In accordance with 9VAC25-790-190 of the Commonwealth of Virginia's *Sewage Collection and Treatment Regulations*, this letter transmits the Certificate to Operate (CTO) for Woodberry Forest WWTP Improvements located in Madison County. The CTO is being issued based on the Application for Certificate to Operate dated October 20, 2011, and received by this office on October 21, 2011.

If you have any questions about this letter or the approval process, please contact me at (703)-583-3834 or alison.thompson@deq.virginia.gov.

Respectfully,

Alison Thompson
Water Permits Technical Reviewer

cc: VPDES Permit File VA0027839
VDH District Office, attn: Environmental Health Manager
Madison County Local Building Official
Jason Clark, WW Associates, PO Box 4119, Lynchburg, VA 24502

Attachment: CTO

Attachment 2

Department of Environmental Quality
APPLICATION for CERTIFICATE TO OPERATE
Under the Sewage Collection and Treatment Regulations 9 VAC 25-790
and/or the Water Reclamation and Reuse Regulation 9 VAC 25-740

See instructions. Submit 1 copy of this form and any attachments. Form will expand as you enter information.

Project Title: (as it appears on plans) *Woodberry Forest School Wastewater Treatment Plant Improvements Madison County, Virginia* P.E. Seal Date on Cover: *May 21, 2010* Specifications Title and Date: *Project Manual - Wastewater Treatment Plant Improvements for Woodberry Forest School - Madison County, Virginia – May 21, 2010*	
Location of Project: *See Attached Vicinity Map*	County/City: *Madison County, VA*
Receiving Wastewater Collection System(s): *Woodberry Forest School*	
Receiving Sewage Treatment Plant(s): *Woodberry Forest School WWTP*	
PROJECT OWNER: *Woodberry Forest School*	**RESPONSIBLE ENGINEER**
Owner Contact Name: *R. Bruce Tibbetts*	Name: *Jason A. Clark, P.E.*
Title: *Director of Facilities*	Company Name: *WW Associates, Inc.*
Address: *898 Woodberry Forest Rd, Woodberry Forest, VA 22989 (Physical Address)*	Address: *1179 Vista Park Drive, Forest, VA 24551 (Physical Address)* *P.O. Box 4119, Lynchburg, VA 24502 (U.S. Mail)*
Phone: *(540) 672-6052*	Phone: *(434) 316-6080*
Email: *bruce_tibbetts@woodberry.org*	Email: *jclark@wwassociates.net*
Owner Signature and Date: R. B. Tibbetts 10/20/11	

PTL NUMBER FROM CERTIFICATE TO CONSTRUCT: *24929*

Attach Copy of the original Certificate to Construct if issued prior to November 9, 2008. If applicable, provide verification of compliance with any conditions in the Certificate to Construct. *(See Attached Certificate to Construct)*

Design Flow: (a) average daily flow (MGD): *0.039* (b) peak flow (MGD): *0.0975*
For sewage treatment plant, water reclamation or satellite reclamation projects, provide the VPDES/VPA Permit Number: *VA-0027839*
Is a new Discharge Monitoring Report (DMR) or other monthly monitoring report required? Yes ☒ No ☐
For Pump Stations, Sewage Treatment Plants, and Reclamation Systems, check Reliability Class: I ☐ II ☒ III ☐ NA ☐

.....

Two options are provided for the Statement of Completion, depending on whether the project is being authorized under the Sewage Collection and Treatment Regulations, the Water Reclamation and Reuse Regulations, or BOTH. Please check the appropriate box and then provide signature and seal below as indicated.

☒ *The following statement of completion for issuance of a Certificate to Operate under the Sewage Collection and Treatment Regulations must be signed and sealed by the responsible engineer.* (DEQ will not conduct a confirming inspection.)

"The construction of the project has been completed in accordance with the referenced plans and specifications or revised only in accordance with 9 VAC 25-790-180.B, and inspections have been performed to make this statement in accordance with Section 9 VAC 25-790-180.C.1 of the Sewage Collection and Treatment Regulations."

Licensed Engineer's Signature and original seal (signed and dated)

☐ *The following statement of completion for issuance of a Certificate to Operate under the Water Reclamation and Reuse Regulation must be signed and sealed by the responsible engineer.* (DEQ will not conduct a confirming inspection.)

"The construction of the project has been completed in accordance with the referenced plans and specifications or revised only in accordance with 9 VAC 25-740-120-B.2.b. and inspections have been performed to make this statement in accordance with Section 9 VAC 25-40-120.B.3.a. of the Water Reclamation and Reuse Regulations."

Licensed Engineer's Signature and original seal (signed and dated)

For DEQ use only:

In accordance with *Code of Virginia* 1950, as amended, Title 62.1, Section 62.1-44.19, this form, signed by the appropriate DEQ representative, serves as the **Certificate to Operate** for the referenced project.

Alison Thompson		11/2/11	25426
Name	Signature	Date	CTO PTL Number

Department of Environmental Quality Authorized Representative

An Operation and Maintenance Manual must be submitted to the DEQ Regional Office in accordance with 9 VAC 25-790 for sewage treatment plants, 9 VAC 25-740 for water reclamation systems and satellite reclamation systems and VPDES or VPA permit requirements.

For pump stations, an Operation and Maintenance Manual must be maintained for the facility in accordance with 9 VAC 25-790, but is NOT to be submitted to DEQ. The pump station must be operated and maintained in accordance with that manual.

NPDES PERMIT RATING WORK SHEET

[X] Regular Addition
[ ] Discretionary Addition
[ ] Score change, but no status Change
[ ] Deletion

VPDES NO. : VA0027839

Facility Name: Woodberry Forest School
City / County: Woodberry Forest / Madison
Receiving Water: Rapidan River
Waterbody ID: VAN-E13R

Is this facility a steam electric power plant (sic =4911) with one or more of the following characteristics?

1. Power output 500 MW or greater (not using a cooling pond/lake)
2. A nuclear power Plant
3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rater

[ ] Yes; score is 600 (stop here) [X] NO; (continue)

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

[ ] YES; score is 700 (stop here)
[X] NO; (continue)

FACTOR 1: Toxic Pollutant Potential

PCS SIC Code: _____ Primary Sic Code: 4941 Other Sic Codes: _____ _____ _____

Industrial Subcategory Code: 000 (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. Be sure to use the TOTAL toxicity potential column and check one)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
[ ] No process waste streams	0	0	[ ] 3.	3	15	[X] 7.	7	35
[ ] 1.	1	5	[ ] 4.	4	20	[ ] 8.	8	40
[ ] 2.	2	10	[ ] 5.	5	25	[ ] 9.	9	45
			[ ] 6.	6	30	[ ] 10.	10	50

Code Number Checked: 7

Total Points Factor 1: 35

FACTOR 2: Flow/Stream Flow Volume (Complete either Section A or Section B; check only one)

Section A – Wastewater Flow Only considered

Wastewater Type (see Instructions)			Code	Points
Type I:	Flow < 5 MGD	[X]	11	0
	Flow 5 to 10 MGD	[ ]	12	10
	Flow > 10 to 50 MGD	[ ]	13	20
	Flow > 50 MGD	[ ]	14	30
Type II:	Flow < 1 MGD	[ ]	21	10
	Flow 1 to 5 MGD	[ ]	22	20
	Flow > 5 to 10 MGD	[ ]	23	30
	Flow > 10 MGD	[ ]	24	50
Type III:	Flow < 1 MGD	[ ]	31	0
	Flow 1 to 5 MGD	[ ]	32	10
	Flow > 5 to 10 MGD	[ ]	33	20
	Flow > 10 MGD	[ ]	34	30

Section B – Wastewater and Stream Flow Considered

Wastewater Type (see Instructions)	Percent of Instream Wastewater Concentration at Receiving Stream Low Flow		Code	Points
Type I/III:	< 10 %	[ ]	41	0
	10 % to < 50 %	[ ]	42	10
	> 50%	[ ]	43	20
Type II:	< 10 %	[ ]	51	0
	10 % to < 50 %	[ ]	52	20
	> 50 %	[ ]	53	30

Code Checked from Section A or B: 11

Total Points Factor 2: 0

NPDES PERMIT RATING WORK SHEET

FACTOR 3: Conventional Pollutants

(only when limited by the permit)

A. Oxygen Demanding Pollutants: (check one) ☐ BOD ☐ COD ☐ Other: _____

Permit Limits: (check one)

		Code	Points
☐	< 100 lbs/day	1	0
☐	100 to 1000 lbs/day	2	5
☐	> 1000 to 3000 lbs/day	3	15
☐	> 3000 lbs/day	4	20

Code Number Checked: NA

Points Scored: 0

B. Total Suspended Solids (TSS)

Permit Limits: (check one)

		Code	Points
X	< 100 lbs/day	1	0
☐	100 to 1000 lbs/day	2	5
☐	> 1000 to 5000 lbs/day	3	15
☐	> 5000 lbs/day	4	20

Code Number Checked: 1

Points Scored: 0

C. Nitrogen Pollutants: (check one) ☐ Ammonia ☐ Other: _____

Permit Limits: (check one)

	Nitrogen Equivalent	Code	Points
☐	< 300 lbs/day	1	0
☐	300 to 1000 lbs/day	2	5
☐	> 1000 to 3000 lbs/day	3	15
☐	> 3000 lbs/day	4	20

Code Number Checked: NA

Points Scored: 0

Total Points Factor 3: 0

FACTOR 4: Public Health Impact

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this include any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above reference supply.

☐ YES; (If yes, check toxicity potential number below)

☒ NO; (If no, go to Factor 5)

Determine the *Human Health* potential from Appendix A. Use the same SIC doe and subcategory reference as in Factor 1. (Be sure to use the *Human Health* toxicity group column – check one below)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
☐ No process waste streams	0	0	☐ 3.	3	0	☐ 7.	7	15
☐ 1.	1	0	☐ 4.	4	0	☐ 8.	8	20
☐ 2.	2	0	☐ 5.	5	5	☐ 9.	9	25
			☐ 6.	6	10	☐ 10.	10	30

Code Number Checked: NA

Total Points Factor 4: 0

NPDES PERMIT RATING WORK SHEET

FACTOR 5: Water Quality Factors

A. *Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-base federal effluent guidelines, or technology-base state effluent guidelines), or has a wasteload allocation been to the discharge*

		Code	Points
[X]	YES	1	10
[ ]	NO	2	0

B. *Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?*

		Code	Points
[X]	YES	1	0
[ ]	NO	2	5

C. *Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?*

		Code	Points
[ ]	YES	1	10
[X]	NO	2	0

Code Number Checked: A 1 B 1 C 2

Points Factor 5: A 10 + B 0 + C 0 = **10**

FACTOR 6: Proximity to Near Coastal Waters

A. Base Score: Enter flow code here (from factor 2) 11

Check appropriate facility HPRI code (from PCS):

	HPRI#	Code	HPRI Score
[ ]	1	1	20
[ ]	2	2	0
[ ]	3	3	30
[X]	4	4	0
[ ]	5	5	20

Enter the multiplication factor that corresponds to the flow code: 11

Flow Code	Multiplication Factor
11, 31, or 41	0.00
12, 32, or 42	0.05
13, 33, or 43	0.10
14 or 34	0.15
21 or 51	0.10
22 or 52	0.30
23 or 53	0.60
24	1.00

HPRI code checked : 4

Base Score (HPRI Score): 0 X (Multiplication Factor) 0.00 = 0

B. Additional Points – NEP Program

For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay?

	Code	Points
[ ]	1	10
[X]	2	0

C. Additional Points – Great Lakes Area of Concern

For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 area's of concern (see instructions)?

	Code	Points
[ ]	1	10
[X]	2	0

Code Number Checked: A 4 B 2 C 2

Points Factor 6: A 0 + B 0 + C 0 = **0**

NPDES PERMIT RATING WORK SHEET

SCORE SUMMARY

Factor	Description	Total Points
1	Toxic Pollutant Potential	35
2	Flows / Streamflow Volume	0
3	Conventional Pollutants	0
4	Public Health Impacts	0
5	Water Quality Factors	10
6	Proximity to Near Coastal Waters	0
	TOTAL (Factors 1 through 6)	45

S1. Is the total score equal to or grater than 80 ☐ YES; (Facility is a Major) ☒ NO

S2. If the answer to the above questions is no, would you like this facility to be discretionary major?

☒ NO

☐ YES; (Add 500 points to the above score and provide reason below:

Reason: _____

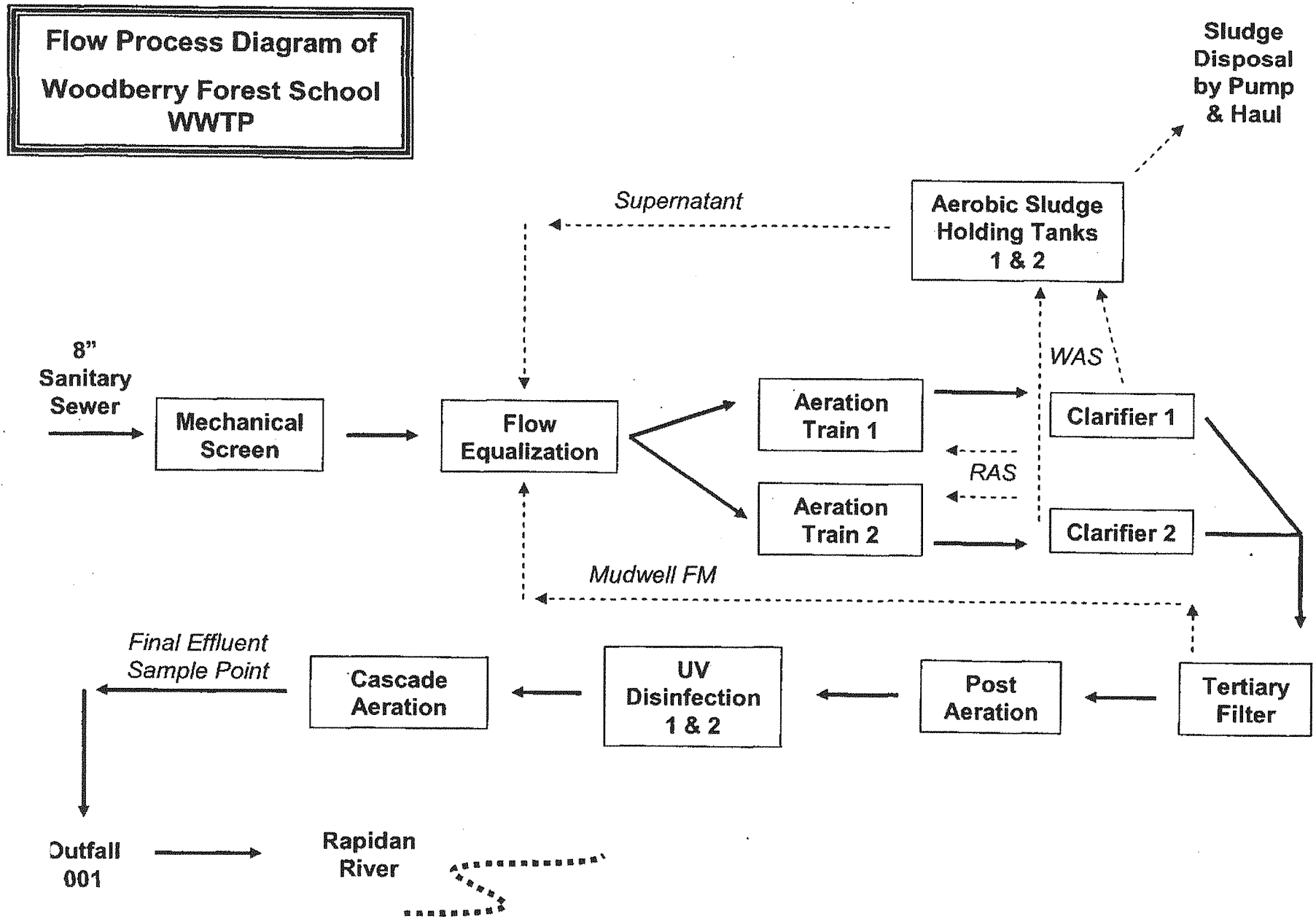
NEW SCORE : 45

OLD SCORE : 45

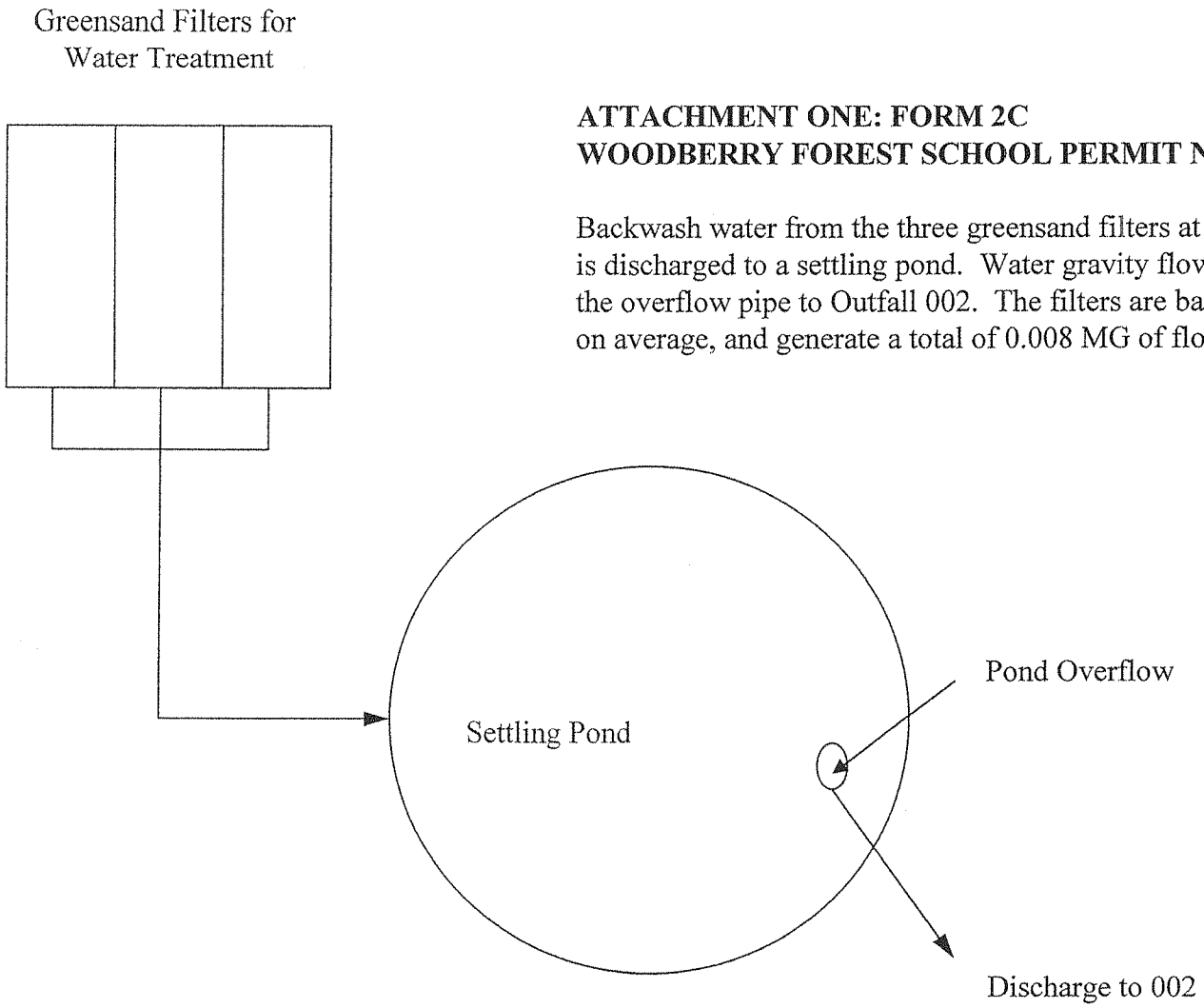
Permit Reviewer's Name : Douglas Frasier

Phone Number: (703) 583-3873

Date: 21 August 2012

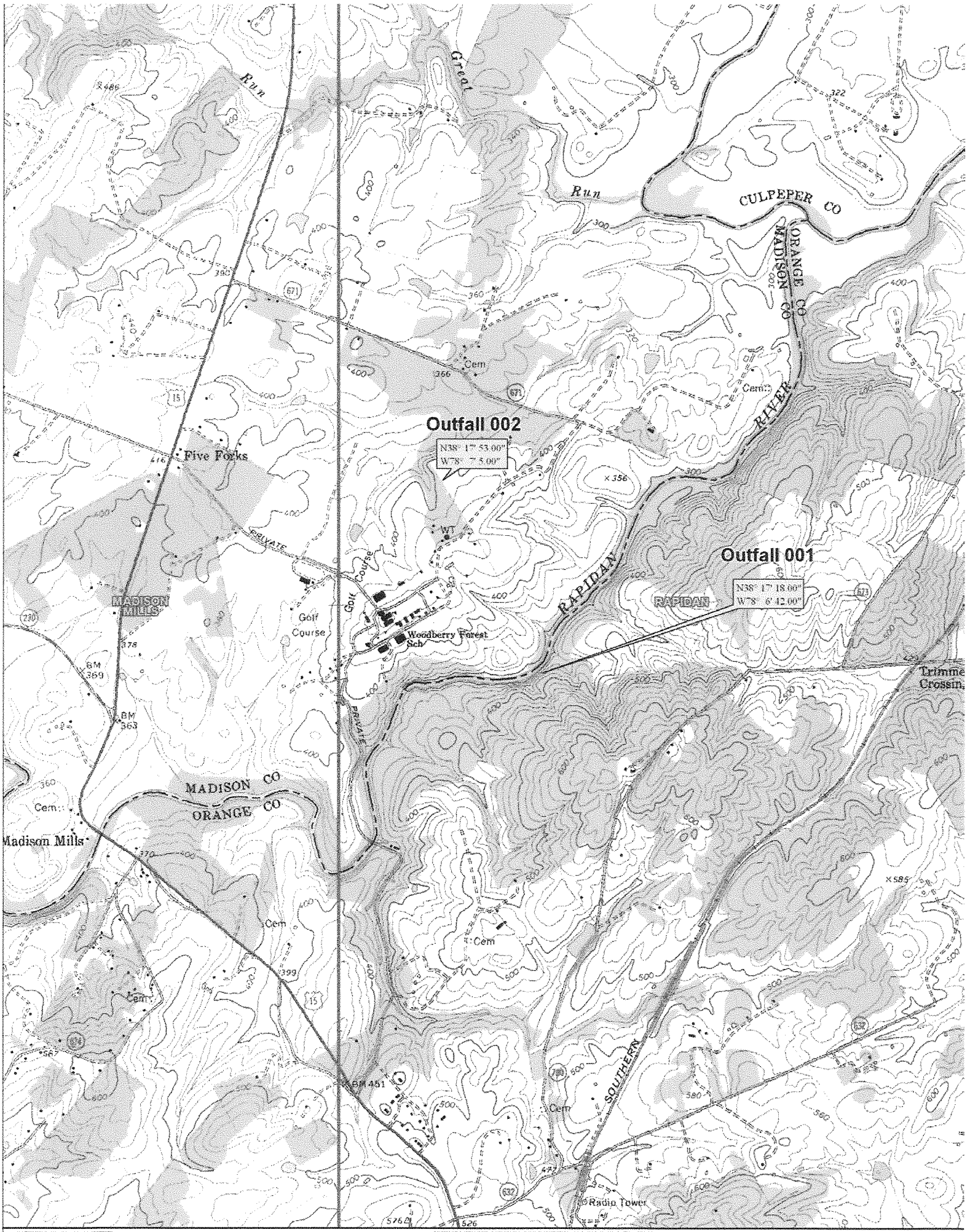


Attachment 4



ATTACHMENT ONE: FORM 2C
WOODBERRY FOREST SCHOOL PERMIT NO. VA0027839

Backwash water from the three greensand filters at the water treatment plant is discharged to a settling pond. Water gravity flows from the pond through the overflow pipe to Outfall 002. The filters are backwashed every other day on average, and generate a total of 0.008 MG of flow during each event.



Attachment 5

MEMORANDUM

TO: File

FROM: Douglas Frasier

DATE: 21 August 2012

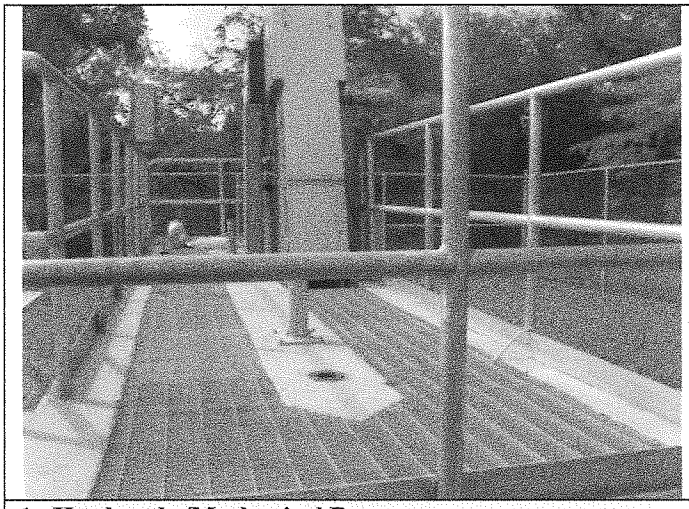
SUBJECT: Site Visit – Woodberry Forest School – VA0027839

This site visit was in conjunction with the upcoming permit reissuance. This facility serves a private school in Madison County with a population of approximately 400 students plus faculty. Wastewater is conveyed to the facility via 8 inch sewer main to the headworks. The facility was recently upgraded and consists of a mechanical screen for debris removal, EQ tanks, aeration basins consisting of two treatment trains, secondary clarification tanks, tertiary filter (gravity sand filter), UV disinfection and post aeration via cascade steps.

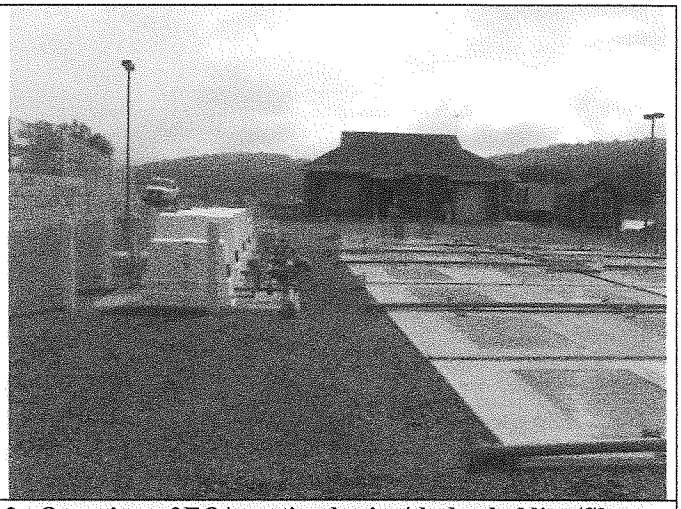
The facility was discharging at the time of the visit; effluent was clear.

Attachment 6

Woodberry Forest School
VA0027839
Site Visit
21 August 2012



1. Headworks/Mechanical Barscreen



2. Overview of EQ/aeration basins/sludge holding/filters

3. UV units

4. Cascade aeration

5. Rapidan at outfall

6. Downstream

To:	Douglas Frasier
From:	Katie Conaway
Date:	April 10, 2012
Subject:	Planning Statement for Woodberry Forest School
Permit Number:	VA0027839

Outfall 001:

Discharge Type:	Minor, Municipal
Discharge Flow:	0.039 MGD
Receiving Stream:	Rapidan River
Stream Code:	3-RAP
Waterbody ID:	VAN-E13R
Water Quality Standards:	Class III, Section 4.
Latitude / Longitude:	38° 17′ 18″ /- 78° 06′ 42″
Rivermile:	42.39

Outfall 002:

Discharge Type:	Minor, Industrial (WTP)
Discharge Flow:	0.008 MGD
Receiving Stream:	Rapidan River, UT
Stream Code:	3- XEC
Waterbody ID:	VAN-E13R
Water Quality Standards:	Class III, Section 4.
Latitude / Longitude:	38° 17′ 53″ / -78° 07′ 05″
Rivermile:	0.22

1. Is there monitoring data for the receiving stream?
   - If yes, please attach latest summary.
   - If no, where is the nearest downstream monitoring station.

Outfall 001: Yes. Outfall 001 of this facility discharges to the Rapidan River. The nearest DEQ monitoring station is Station 3-RAP045.08, which is located approximately 2.3 rivermiles upstream from Outfall 001. Station 3-RAP045.08 is located at the Route 15 bridge crossing. The monitoring summary for Station 3-RAP045.08, according to the Draft 2012 Integrated Assessment, is found below:

Class III, Section 4.

DEQ ambient monitoring station 3-RAP045.08, at Route 15. Citizen monitoring station 3RAP-M16-SOS.

E. coli monitoring finds a bacterial impairment, resulting in an impaired classification for the recreation use. The aquatic life use is considered fully supporting. Citizen monitoring finds a low probability of adverse conditions for biota. The fish consumption use was not assessed.

The wildlife use is considered fully supporting.

Attachment 7

Outfall 002: No. Outfall 002 of this facility discharges to an Unnamed Tributary (Stream Code XEC), which discharges to another Unnamed Tributary (Stream Code XEB) to the Rapidan River. The nearest downstream DEQ monitoring station is Station 3-RAP037.90, located on the Rapidan River at the Route 615 bridge crossing. This station is located approximately 3.9 rivermiles downstream from Outfall 002. The monitoring summary for Station 3-RAP037.90, according to the Draft 2012 Integrated Assessment, is found below:

Class III, Section 4.

DEQ ambient monitoring station 3-RAP037.90, at Route 615 (Rapidan Road).

E. coli monitoring finds a bacterial impairment, resulting in an impaired classification for the recreation use. This impairment is nested within the downstream completed bacteria TMDL for the Rapidan River.

The aquatic life and wildlife uses are considered fully supporting. The fish consumption use was not assessed.

2. Is the receiving stream on the current 303(d) list?

Outfall 001: Yes.

- If yes, what is the impairment?

Recreation Use (*E. coli*): Sufficient excursions from the maximum *E. coli* bacteria criterion (9 of 30 samples - 30.0%) were recorded at DEQ's ambient water quality monitoring station (3-RAP045.08) at the Route 15 bridge crossing to assess this stream segment as not supporting of the recreation use for the 2012 water quality assessment.

- Has the TMDL been prepared?

Yes.

- If yes, what is the WLA for the discharge?

The E. coli WLA for this facility is **6.78E+10 cfu/year**.

- If no, what is the schedule for the TMDL?

The Bacteria TMDL for the Rapidan River was completed in 2007, and approved by EPA on 12/05/2007.

Outfall 002: No.

- If yes, what is the impairment?

N/A

- Has the TMDL been prepared?

N/A

- If yes, what is the WLA for the discharge?

  N/A

- If no, what is the schedule for the TMDL?

  N/A

3. If the answer to (2) above is no, is there a downstream 303(d) listed impairment?

Outfall 001: N/A

Outfall 002: Yes. Recreational Use Impairment on the Rapidan River.

- If yes, what is the impairment?

  Recreational Use (*E. coli*): Sufficient excursions from the maximum *E. coli* bacteria criterion (5 of 24 samples - 20.8%) were recorded at DEQ's ambient water quality monitoring station (3-RAP037.90) at the Route 615 (Rapidan Road) bridge crossing to assess this stream segment as not supporting the recreation use for the 2012 water quality assessment.

- Has a TMDL been prepared?

  While a bacteria TMDL has not been completed for this specific reach of the Rapidan River, a downstream bacteria TMDL was completed for other segments of the Rapidan River. This section of the Rapidan River is considered "nested" within the completed bacteria TMDL for a further downstream segment of the Rapidan River.

- Will the TMDL include the receiving stream?

  No, however, all relevant upstream point source discharges were considered during TMDL Development.

- Is there a WLA for the discharge?

  There is no bacteria WLA for Outfall 002, as it is not expected to discharge the contaminant of concern.

- What is the schedule for the TMDL?

  The Bacteria TMDL for the Rapidan River was completed in 2007, and approved by EPA on 12/05/2007.

4. Is there monitoring or other conditions that Planning/Assessment needs in the permit?

There is a completed downstream TMDL for the aquatic life use impairment for the Chesapeake Bay. However, the Bay TMDL and the WLAs contained within the TMDL are not addressed in this planning statement.

5. Fact Sheet Requirements – Please provide information on other VPDES permits or VADEQ monitoring stations located within a 2 mile radius of the facility. In addition, please provide information on any drinking water intakes located within a 5 mile radius of the facility.

There are two DEQ monitoring stations within a 2 mile radius of this facility, and are within the same watershed:

3-RAP045.08 on the Rapidan River
3-XEZ000.12 on an Unnamed Tributary to the Rapidan River

Both stations are located upstream from the facility.

There are no VPDES facilities within a 2 mile radius of this facility.

There is one drinking water intake within a 5 mile radius of this facility. The Town of Orange raw water intake is located upstream from Outfall 001 on the Rapidan River. While this drinking water intake is within the 5 mile radius of VA0027839, it is approximately 5.4 rivermiles upstream from Outfall 001.

FRESHWATER
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Woodberry Forest School (001) Permit No.: VA0027839

Receiving Stream: Rapidan River Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information

Mean Hardness (as CaCO3) =	50	mg/L
90% Temperature (Annual) =	25.5	deg C
90% Temperature (Wet season) =	11	deg C
90% Maximum pH =	7.4	SU
10% Maximum pH =	6.9	SU
Tier Designation (1 or 2) =	1	
Public Water Supply (PWS) Y/N? =	n	
Trout Present Y/N? =	n	
Early Life Stages Present Y/N? =	y	

Stream Flows

1Q10 (Annual) =	5.5	MGD
7Q10 (Annual) =	6.57	MGD
30Q10 (Annual) =	9.7	MGD
1Q10 (Wet season) =	24.2	MGD
30Q10 (Wet season)	40.1	MGD
30Q5 =	14.9	MGD
Harmonic Mean =	63.3	MGD

Mixing Information

Annual - 1Q10 Mix =	2.91	%
- 7Q10 Mix =	100	%
- 30Q10 Mix =	100	%
Wet Season - 1Q10 Mix =	6.49	%
- 30Q10 Mix =	100	%

Effluent Information

Mean Hardness (as CaCO3) =	50	mg/L
90% Temp (Annual) =	25	deg C
90% Temp (Wet season) =	15	deg C
90% Maximum pH =	7.8	SU
10% Maximum pH =	7.1	SU
Discharge Flow =	0.039	MGD

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Acenapthene	0	--	--	na	9.9E+02	--	--	na	3.8E+05	--	--	--	--	--	--	--	--	--	--	na	3.8E+05
Acrolein	0	--	--	na	9.3E+00	--	--	na	3.6E+03	--	--	--	--	--	--	--	--	--	--	na	3.6E+03
Acrylonitrile[C]	0	--	--	na	2.5E+00	--	--	na	4.1E+03	--	--	--	--	--	--	--	--	--	--	na	4.1E+03
Aldrin [C]	0	3.0E+00	--	na	5.0E-04	1.5E+01	--	na	8.1E-01	--	--	--	--	--	--	--	--	1.5E+01	--	na	8.1E-01
Ammonia-N (mg/l) (Yearly)	0	2.13E+01	2.33E+00	na	--	1.09E+02	5.82E+02	na	--	--	--	--	--	--	--	--	--	1.09E+02	5.82E+02	na	--
Ammonia-N (mg/l) (High Flow)	0	2.28E+01	4.73E+00	na	--	9.40E+02	4.87E+03	na	--	--	--	--	--	--	--	--	--	9.40E+02	4.87E+03	na	--
Anthracene	0	--	--	na	4.0E+04	--	--	na	1.5E+07	--	--	--	--	--	--	--	--	--	--	na	1.5E+07
Antimony	0	--	--	na	6.4E+02	--	--	na	2.5E+05	--	--	--	--	--	--	--	--	--	--	na	2.5E+05
Arsenic	0	3.4E+02	1.5E+02	na	--	1.7E+03	2.5E+04	na	--	--	--	--	--	--	--	--	--	1.7E+03	2.5E+04	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Benzene [C]	0	--	--	na	5.1E+02	--	--	na	8.3E+05	--	--	--	--	--	--	--	--	--	--	na	8.3E+05
Benzidine[C]	0	--	--	na	2.0E-03	--	--	na	3.2E+00	--	--	--	--	--	--	--	--	--	--	na	3.2E+00
Benzo (a) anthracene [C]	0	--	--	na	1.8E-01	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+02
Benzo (b) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+02
Benzo (k) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+02
Benzo (a) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+02
Bis2-Chloroethyl Ether [C]	0	--	--	na	5.3E+00	--	--	na	8.6E+03	--	--	--	--	--	--	--	--	--	--	na	8.6E+03
Bis2-Chloroisopropyl Ether	0	--	--	na	6.5E+04	--	--	na	2.5E+07	--	--	--	--	--	--	--	--	--	--	na	2.5E+07
Bis 2-Ethylhexyl Phthalate [C]	0	--	--	na	2.2E+01	--	--	na	3.6E+04	--	--	--	--	--	--	--	--	--	--	na	3.6E+04
Bromoform [C]	0	--	--	na	1.4E+03	--	--	na	2.3E+06	--	--	--	--	--	--	--	--	--	--	na	2.3E+06
Butylbenzylphthalate	0	--	--	na	1.9E+03	--	--	na	7.3E+05	--	--	--	--	--	--	--	--	--	--	na	7.3E+05
Cadmium	0	1.8E+00	6.6E-01	na	--	9.2E+00	1.1E+02	na	--	--	--	--	--	--	--	--	--	9.2E+00	1.1E+02	na	--
Carbon Tetrachloride [C]	0	--	--	na	1.6E+01	--	--	na	2.6E+04	--	--	--	--	--	--	--	--	--	--	na	2.6E+04
Chlordane [C]	0	2.4E+00	4.3E-03	na	8.1E-03	1.2E+01	7.3E-01	na	1.3E+01	--	--	--	--	--	--	--	--	1.2E+01	7.3E-01	na	1.3E+01
Chloride	0	8.6E+05	2.3E+05	na	--	4.4E+06	3.9E+07	na	--	--	--	--	--	--	--	--	--	4.4E+06	3.9E+07	na	--
TRC	0	1.9E+01	1.1E+01	na	--	9.7E+01	1.9E+03	na	--	--	--	--	--	--	--	--	--	9.7E+01	1.9E+03	na	--
Chlorobenzene	0	--	--	na	1.6E+03	--	--	na	6.1E+05	--	--	--	--	--	--	--	--	--	--	na	6.1E+05

Attachment 8

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane[C]	0	--	--	na	1.3E+02	--	--	na	2.1E+05	--	--	--	--	--	--	--	--	--	--	na	2.1E+05
Chloroform	0	--	--	na	1.1E+04	--	--	na	4.2E+06	--	--	--	--	--	--	--	--	--	--	na	4.2E+06
2-Chloronaphthalene	0	--	--	na	1.6E+03	--	--	na	6.1E+05	--	--	--	--	--	--	--	--	--	--	na	6.1E+05
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	5.7E+04	--	--	--	--	--	--	--	--	--	--	na	5.7E+04
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	4.2E-01	6.9E+00	na	--	--	--	--	--	--	--	--	--	4.2E-01	6.9E+00	na	--
Chromium III	0	3.2E+02	4.2E+01	na	--	1.6E+03	7.1E+03	na	--	--	--	--	--	--	--	--	--	1.6E+03	7.1E+03	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	8.2E+01	1.9E+03	na	--	--	--	--	--	--	--	--	--	8.2E+01	1.9E+03	na	--
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Chrysene [C]	0	--	--	na	1.8E-02	--	--	na	2.9E+01	--	--	--	--	--	--	--	--	--	--	na	2.9E+01
Copper	0	7.0E+00	5.0E+00	na	--	3.6E+01	8.4E+02	na	--	--	--	--	--	--	--	--	--	3.6E+01	8.4E+02	na	--
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	1.1E+02	8.8E+02	na	6.1E+06	--	--	--	--	--	--	--	--	1.1E+02	8.8E+02	na	6.1E+06
DDD [C]	0	--	--	na	3.1E-03	--	--	na	5.0E+00	--	--	--	--	--	--	--	--	--	--	na	5.0E+00
DDE [C]	0	--	--	na	2.2E-03	--	--	na	3.6E+00	--	--	--	--	--	--	--	--	--	--	na	3.6E+00
DDT [C]	0	1.1E+00	1.0E-03	na	2.2E-03	5.6E+00	1.7E-01	na	3.6E+00	--	--	--	--	--	--	--	--	5.6E+00	1.7E-01	na	3.6E+00
Demeton	0	--	1.0E-01	na	--	--	1.7E+01	na	--	--	--	--	--	--	--	--	--	--	1.7E+01	na	--
Diazinon	0	1.7E-01	1.7E-01	na	--	8.7E-01	2.9E+01	na	--	--	--	--	--	--	--	--	--	8.7E-01	2.9E+01	na	--
Dibenz(a,h)anthracene [C]	0	--	--	na	1.8E-01	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+02
1,2-Dichlorobenzene	0	--	--	na	1.3E+03	--	--	na	5.0E+05	--	--	--	--	--	--	--	--	--	--	na	5.0E+05
1,3-Dichlorobenzene	0	--	--	na	9.6E+02	--	--	na	3.7E+05	--	--	--	--	--	--	--	--	--	--	na	3.7E+05
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	7.3E+04	--	--	--	--	--	--	--	--	--	--	na	7.3E+04
3,3-Dichlorobenzidine[C]	0	--	--	na	2.8E-01	--	--	na	4.5E+02	--	--	--	--	--	--	--	--	--	--	na	4.5E+02
Dichlorobromomethane [C]	0	--	--	na	1.7E+02	--	--	na	2.8E+05	--	--	--	--	--	--	--	--	--	--	na	2.8E+05
1,2-Dichloroethane [C]	0	--	--	na	3.7E+02	--	--	na	6.0E+05	--	--	--	--	--	--	--	--	--	--	na	6.0E+05
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	2.7E+06	--	--	--	--	--	--	--	--	--	--	na	2.7E+06
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	3.8E+06	--	--	--	--	--	--	--	--	--	--	na	3.8E+06
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	1.1E+05	--	--	--	--	--	--	--	--	--	--	na	1.1E+05
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,2-Dichloropropane[C]	0	--	--	na	1.5E+02	--	--	na	2.4E+05	--	--	--	--	--	--	--	--	--	--	na	2.4E+05
1,3-Dichloropropene [C]	0	--	--	na	2.1E+02	--	--	na	3.4E+05	--	--	--	--	--	--	--	--	--	--	na	3.4E+05
Dieldrin [C]	0	2.4E-01	5.6E-02	na	5.4E-04	1.2E+00	9.5E+00	na	8.8E-01	--	--	--	--	--	--	--	--	1.2E+00	9.5E+00	na	8.8E-01
Diethyl Phthalate	0	--	--	na	4.4E+04	--	--	na	1.7E+07	--	--	--	--	--	--	--	--	--	--	na	1.7E+07
2,4-Dimethylphenol	0	--	--	na	8.5E+02	--	--	na	3.3E+05	--	--	--	--	--	--	--	--	--	--	na	3.3E+05
Dimethyl Phthalate	0	--	--	na	1.1E+06	--	--	na	4.2E+08	--	--	--	--	--	--	--	--	--	--	na	4.2E+08
Di-n-Butyl Phthalate	0	--	--	na	4.5E+03	--	--	na	1.7E+06	--	--	--	--	--	--	--	--	--	--	na	1.7E+06
2,4 Dinitrophenol	0	--	--	na	5.3E+03	--	--	na	2.0E+06	--	--	--	--	--	--	--	--	--	--	na	2.0E+06
2-Methyl-4,6-Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	1.1E+05	--	--	--	--	--	--	--	--	--	--	na	1.1E+05
2,4-Dinitrotoluene [C]	0	--	--	na	3.4E+01	--	--	na	5.5E+04	--	--	--	--	--	--	--	--	--	--	na	5.5E+04
Dioxin 2,3,7,8-tetrachlorodibenzo-p-dioxin	0	--	--	na	5.1E-08	--	--	na	2.0E-05	--	--	--	--	--	--	--	--	--	--	na	2.0E-05
1,2-Diphenylhydrazine[C]	0	--	--	na	2.0E+00	--	--	na	3.2E+03	--	--	--	--	--	--	--	--	--	--	na	3.2E+03
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	1.1E+00	9.5E+00	na	3.4E+04	--	--	--	--	--	--	--	--	1.1E+00	9.5E+00	na	3.4E+04
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	1.1E+00	9.5E+00	na	3.4E+04	--	--	--	--	--	--	--	--	1.1E+00	9.5E+00	na	3.4E+04
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	1.1E+00	9.5E+00	--	--	--	--	--	--	--	--	--	--	1.1E+00	9.5E+00	--	--
Endosulfan Sulfate	0	--	--	na	8.9E+01	--	--	na	3.4E+04	--	--	--	--	--	--	--	--	--	--	na	3.4E+04
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	4.4E-01	6.1E+00	na	2.3E+01	--	--	--	--	--	--	--	--	4.4E-01	6.1E+00	na	2.3E+01
Endrin Aldehyde	0	--	--	na	3.0E-01	--	--	na	1.1E+02	--	--	--	--	--	--	--	--	--	--	na	1.1E+02

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Ethylbenzene	0	--	--	na	2.1E+03	--	--	na	8.0E+05	--	--	--	--	--	--	--	--	--	--	na	**8.0E+05**
Fluoranthene	0	--	--	na	1.4E+02	--	--	na	5.4E+04	--	--	--	--	--	--	--	--	--	--	na	**5.4E+04**
Fluorene	0	--	--	na	5.3E+03	--	--	na	2.0E+06	--	--	--	--	--	--	--	--	--	--	na	**2.0E+06**
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	1.7E+00	na	--	--	--	--	--	--	--	--	--	--	**1.7E+00**	na	--
Heptachlor [C]	0	5.2E-01	3.8E-03	na	7.9E-04	2.7E+00	6.4E-01	na	1.3E+00	--	--	--	--	--	--	--	--	**2.7E+00**	**6.4E-01**	na	**1.3E+00**
Heptachlor Epoxide[C]	0	5.2E-01	3.8E-03	na	3.9E-04	2.7E+00	6.4E-01	na	6.3E-01	--	--	--	--	--	--	--	--	**2.7E+00**	**6.4E-01**	na	**6.3E-01**
Hexachlorobenzene[C]	0	--	--	na	2.9E-03	--	--	na	4.7E+00	--	--	--	--	--	--	--	--	--	--	na	**4.7E+00**
Hexachlorobutadiene[C]	0	--	--	na	1.8E+02	--	--	na	2.9E+05	--	--	--	--	--	--	--	--	--	--	na	**2.9E+05**
Hexachlorocyclohexane Alpha-BHC[C]	0	--	--	na	4.9E-02	--	--	na	8.0E+01	--	--	--	--	--	--	--	--	--	--	na	**8.0E+01**
Hexachlorocyclohexane Beta-BHC[C]	0	--	--	na	1.7E-01	--	--	na	2.8E+02	--	--	--	--	--	--	--	--	--	--	na	**2.8E+02**
Hexachlorocyclohexane Gamma-BHC[C] (Lindane)	0	9.5E-01	na	na	1.8E+00	4.8E+00	--	na	2.9E+03	--	--	--	--	--	--	--	--	**4.8E+00**	--	na	**2.9E+03**
Hexachlorocyclopentadiene	0	--	--	na	1.1E+03	--	--	na	4.2E+05	--	--	--	--	--	--	--	--	--	--	na	**4.2E+05**
Hexachloroethane[C]	0	--	--	na	3.3E+01	--	--	na	5.4E+04	--	--	--	--	--	--	--	--	--	--	na	**5.4E+04**
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	3.4E+02	na	--	--	--	--	--	--	--	--	--	--	**3.4E+02**	na	--
Indeno (1,2,3-cd) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	**2.9E+02**
Iron	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Isophorone[C]	0	--	--	na	9.6E+03	--	--	na	1.6E+07	--	--	--	--	--	--	--	--	--	--	na	**1.6E+07**
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	**0.0E+00**	na	--
Lead	0	4.9E+01	5.6E+00	na	--	2.5E+02	9.5E+02	na	--	--	--	--	--	--	--	--	--	**2.5E+02**	**9.5E+02**	na	--
Malathion	0	--	1.0E-01	na	--	--	1.7E+01	na	--	--	--	--	--	--	--	--	--	--	**1.7E+01**	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	--	--	7.1E+00	1.3E+02	--	--	--	--	--	--	--	--	--	--	**7.1E+00**	**1.3E+02**	--	--
Methyl Bromide	0	--	--	na	1.5E+03	--	--	na	5.7E+05	--	--	--	--	--	--	--	--	--	--	na	**5.7E+05**
Methylene Chloride [C]	0	--	--	na	5.9E+03	--	--	na	9.6E+06	--	--	--	--	--	--	--	--	--	--	na	**9.6E+06**
Methoxychlor	0	--	3.0E-02	na	--	--	5.1E+00	na	--	--	--	--	--	--	--	--	--	--	**5.1E+00**	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	**0.0E+00**	na	--
Nickel	0	1.0E+02	1.1E+01	na	4.6E+03	5.2E+02	1.9E+03	na	1.8E+06	--	--	--	--	--	--	--	--	**5.2E+02**	**1.9E+03**	na	**1.8E+06**
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Nitrobenzene	0	--	--	na	6.9E+02	--	--	na	2.6E+05	--	--	--	--	--	--	--	--	--	--	na	**2.6E+05**
N-Nitrosodimethylamine[C]	0	--	--	na	3.0E+01	--	--	na	4.9E+04	--	--	--	--	--	--	--	--	--	--	na	**4.9E+04**
N-Nitrosodiphenylamine[C]	0	--	--	na	6.0E+01	--	--	na	9.7E+04	--	--	--	--	--	--	--	--	--	--	na	**9.7E+04**
N-Nitrosodi-n-propylamine[C]	0	--	--	na	5.1E+00	--	--	na	8.3E+03	--	--	--	--	--	--	--	--	--	--	na	**8.3E+03**
Nonylphenol	0	2.8E+01	6.6E+00	--	--	1.4E+02	1.1E+03	na	--	--	--	--	--	--	--	--	--	**1.4E+02**	**1.1E+03**	na	--
Parathion	0	6.5E-02	1.3E-02	na	--	3.3E-01	2.2E+00	na	--	--	--	--	--	--	--	--	--	**3.3E-01**	**2.2E+00**	na	--
PCB Total[C]	0	--	1.4E-02	na	6.4E-04	--	2.4E+00	na	1.0E+00	--	--	--	--	--	--	--	--	--	**2.4E+00**	na	**1.0E+00**
Pentachlorophenol [C]	0	8.2E+00	6.1E+00	na	3.0E+01	4.2E+01	1.0E+03	na	4.9E+04	--	--	--	--	--	--	--	--	**4.2E+01**	**1.0E+03**	na	**4.9E+04**
Phenol	0	--	--	na	8.6E+05	--	--	na	3.3E+08	--	--	--	--	--	--	--	--	--	--	na	**3.3E+08**
Pyrene	0	--	--	na	4.0E+03	--	--	na	1.5E+06	--	--	--	--	--	--	--	--	--	--	na	**1.5E+06**
Radionuclides	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Gross Alpha Activity (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Beta and Photon Activity (mrem/yr)	0	--	--	na	4.0E+00	--	--	na	1.5E+03	--	--	--	--	--	--	--	--	--	--	na	**1.5E+03**
Radium 226 + 228 (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Uranium (ug/l)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	1.0E+02	8.5E+02	na	1.6E+06	--	--	--	--	--	--	--	--	**1.0E+02**	**8.5E+02**	**na**	**1.6E+06**
Silver	0	1.0E+00	--	na	--	5.3E+00	--	na	--	--	--	--	--	--	--	--	--	**5.3E+00**	**--**	**na**	**--**
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
1,1,2,2-Tetrachloroethane[C]	0	--	--	na	4.0E+01	--	--	na	6.5E+04	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**6.5E+04**
Tetrachloroethylene[C]	0	--	--	na	3.3E+01	--	--	na	5.4E+04	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**5.4E+04**
Thallium	0	--	--	na	4.7E-01	--	--	na	1.8E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.8E+02**
Toluene	0	--	--	na	6.0E+03	--	--	na	2.3E+06	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.3E+06**
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Toxaphene [C]	0	7.3E-01	2.0E-04	na	2.8E-03	3.7E+00	3.4E-02	na	4.5E+00	--	--	--	--	--	--	--	--	**3.7E+00**	**3.4E-02**	**na**	**4.5E+00**
Tributyltin	0	4.6E-01	7.2E-02	na	--	2.3E+00	1.2E+01	na	--	--	--	--	--	--	--	--	--	**2.3E+00**	**1.2E+01**	**na**	**--**
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	2.7E+04	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.7E+04**
1,1,2-Trichloroethane[C]	0	--	--	na	1.6E+02	--	--	na	2.6E+05	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.6E+05**
Trichloroethylene [C]	0	--	--	na	3.0E+02	--	--	na	4.9E+05	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.9E+05**
2,4,6-Trichlorophenol [C]	0	--	--	na	2.4E+01	--	--	na	3.9E+04	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.9E+04**
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Vinyl Chloride[C]	0	--	--	na	2.4E+01	--	--	na	3.9E+04	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.9E+04**
Zinc	0	6.5E+01	6.6E+01	na	2.6E+04	3.3E+02	1.1E+04	na	1.0E+07	--	--	--	--	--	--	--	--	**3.3E+02**	**1.1E+04**	**na**	**1.0E+07**

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
   Antidegradation WLAs are based upon a complete mix.
6. Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
   = (0.1(WQC - background conc.) + background conc.) for human health
7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	2.5E+05
Arsenic	6.9E+02
Barium	na
Cadmium	3.7E+00
Chromium III	6.6E+02
Chromium VI	3.3E+01
Copper	1.4E+01
Iron	na
Lead	1.0E+02
Manganese	na
Mercury	2.9E+00
Nickel	2.1E+02
Selenium	4.1E+01
Silver	2.1E+00
Zinc	1.3E+02

Note: do not use QL's lower than the minimum QL's provided in agency guidance

FRESHWATER
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Woodberry Forest School (002) Permit No.: VA0027839

Receiving Stream: Rapidan River, UT Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information

Mean Hardness (as CaCO3) =		mg/L
90% Temperature (Annual) =		deg C
90% Temperature (Wet season) =		deg C
90% Maximum pH =		SU
10% Maximum pH =		SU
Tier Designation (1 or 2) =	1	
Public Water Supply (PWS) Y/N? =	n	
Trout Present Y/N? =	n	
Early Life Stages Present Y/N? =	y	

Stream Flows

1Q10 (Annual) =	0	MGD
7Q10 (Annual) =	0	MGD
30Q10 (Annual) =	0	MGD
1Q10 (Wet season) =	0	MGD
30Q10 (Wet season)	0	MGD
30Q5 =	0	MGD
Harmonic Mean =	0	MGD

Mixing Information

Annual - 1Q10 Mix =	0	%
- 7Q10 Mix =	0	%
- 30Q10 Mix =	0	%
Wet Season - 1Q10 Mix =	0	%
- 30Q10 Mix =	0	%

Effluent Information

Mean Hardness (as CaCO3) =	50	mg/L
90% Temp (Annual) =	25	deg C
90% Temp (Wet season) =	15	deg C
90% Maximum pH =	7.3	SU
10% Maximum pH =	6.1	SU
Discharge Flow =	0.008	MGD

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Acenapthene	0	--	--	na	9.9E+02	--	--	na	9.9E+02	--	--	--	--	--	--	--	--	--	--	na	9.9E+0
Acrolein	0	--	--	na	9.3E+00	--	--	na	9.3E+00	--	--	--	--	--	--	--	--	--	--	na	9.3E+0
Acrylonitrile[C]	0	--	--	na	2.5E+00	--	--	na	2.5E+00	--	--	--	--	--	--	--	--	--	--	na	2.5E+0
Aldrin [C]	0	3.0E+00	--	na	5.0E-04	3.0E+00	--	na	5.0E-04	--	--	--	--	--	--	--	--	3.0E+00	--	na	5.0E-0
Ammonia-N (mg/l) (Yearly)	0	2.62E+01	2.58E+00	na	--	2.62E+01	2.58E+00	na	--	--	--	--	--	--	--	--	--	2.62E+01	2.58E+00	na	--
Ammonia-N (mg/l) (High Flow)	0	2.62E+01	4.92E+00	na	--	2.62E+01	4.92E+00	na	--	--	--	--	--	--	--	--	--	2.62E+01	4.92E+00	na	--
Anthracene	0	--	--	na	4.0E+04	--	--	na	4.0E+04	--	--	--	--	--	--	--	--	--	--	na	4.0E+0
Antimony	0	--	--	na	6.4E+02	--	--	na	6.4E+02	--	--	--	--	--	--	--	--	--	--	na	6.4E+0
Arsenic	0	3.4E+02	1.5E+02	na	--	3.4E+02	1.5E+02	na	--	--	--	--	--	--	--	--	--	3.4E+02	1.5E+02	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Benzene [C]	0	--	--	na	5.1E+02	--	--	na	5.1E+02	--	--	--	--	--	--	--	--	--	--	na	5.1E+0
Benzidine[C]	0	--	--	na	2.0E-03	--	--	na	2.0E-03	--	--	--	--	--	--	--	--	--	--	na	2.0E-0
Benzo (a) anthracene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (b) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (k) fluoranthene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (a) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Bis2-Chloroethyl Ether [C]	0	--	--	na	5.3E+00	--	--	na	5.3E+00	--	--	--	--	--	--	--	--	--	--	na	5.3E+0
Bis2-Chloroisopropyl Ether	0	--	--	na	6.5E+04	--	--	na	6.5E+04	--	--	--	--	--	--	--	--	--	--	na	6.5E+0
Bis 2-Ethylhexyl Phthalate [C]	0	--	--	na	2.2E+01	--	--	na	2.2E+01	--	--	--	--	--	--	--	--	--	--	na	2.2E+0
Bromoform [C]	0	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	--	--	--	--	--	--	--	--	na	1.4E+0
Butylbenzylphthalate	0	--	--	na	1.9E+03	--	--	na	1.9E+03	--	--	--	--	--	--	--	--	--	--	na	1.9E+0
Cadmium	0	1.8E+00	6.6E-01	na	--	1.8E+00	6.6E-01	na	--	--	--	--	--	--	--	--	--	1.8E+00	6.6E-01	na	--
Carbon Tetrachloride [C]	0	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	--	--	--	--	--	--	--	--	na	1.6E+01
Chlordane [C]	0	2.4E+00	4.3E-03	na	8.1E-03	2.4E+00	4.3E-03	na	8.1E-03	--	--	--	--	--	--	--	--	2.4E+00	4.3E-03	na	8.1E-03
Chloride	0	8.6E+05	2.3E+05	na	--	8.6E+05	2.3E+05	na	--	--	--	--	--	--	--	--	--	8.6E+05	2.3E+05	na	--
TRC	0	1.9E+01	1.1E+01	na	--	1.9E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.9E+01	1.1E+01	na	--
Chlorobenzene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+03

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane[C]	0	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	--	--	--	--	--	--	--	--	na	1.3E+02
Chloroform	0	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	--	--	--	--	na	1.1E+04
2-Chloronaphthalene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+03
2-Chlorophenol	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	8.3E-02	4.1E-02	na	--	--	--	--	--	--	--	--	--	8.3E-02	4.1E-02	na	--
Chromium III	0	3.2E+02	4.2E+01	na	--	3.2E+02	4.2E+01	na	--	--	--	--	--	--	--	--	--	3.2E+02	4.2E+01	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.6E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.6E+01	1.1E+01	na	--
Chromium, Total	0	--	--	1.0E+02	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Chrysene [C]	0	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	--	--	--	--	--	--	--	--	na	1.8E-02
Copper	0	7.0E+00	5.0E+00	na	--	7.0E+00	5.0E+00	na	--	--	--	--	--	--	--	--	--	7.0E+00	5.0E+00	na	--
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	2.2E+01	5.2E+00	na	1.6E+04	--	--	--	--	--	--	--	--	2.2E+01	5.2E+00	na	1.6E+04
DDD [C]	0	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	--	--	--	--	--	--	--	--	na	3.1E-03
DDE [C]	0	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	--	--	--	--	--	--	--	--	na	2.2E-03
DDT [C]	0	1.1E+00	1.0E-03	na	2.2E-03	1.1E+00	1.0E-03	na	2.2E-03	--	--	--	--	--	--	--	--	1.1E+00	1.0E-03	na	2.2E-03
Demeton	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Diazinon	0	1.7E-01	1.7E-01	na	--	1.7E-01	1.7E-01	na	--	--	--	--	--	--	--	--	--	1.7E-01	1.7E-01	na	--
Dibenz(a,h)anthracene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
1,2-Dichlorobenzene	0	--	--	na	1.3E+03	--	--	na	1.3E+03	--	--	--	--	--	--	--	--	--	--	na	1.3E+03
1,3-Dichlorobenzene	0	--	--	na	9.6E+02	--	--	na	9.6E+02	--	--	--	--	--	--	--	--	--	--	na	9.6E+02
1,4-Dichlorobenzene	0	--	--	na	1.9E+02	--	--	na	1.9E+02	--	--	--	--	--	--	--	--	--	--	na	1.9E+02
3,3-Dichlorobenzidine[C]	0	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	--	--	--	--	--	--	--	--	na	2.8E-01
Dichlorobromomethane [C]	0	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	--	--	--	--	--	--	--	--	na	1.7E+02
1,2-Dichloroethane [C]	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	--	--	--	--	na	3.7E+02
1,1-Dichloroethylene	0	--	--	na	7.1E+03	--	--	na	7.1E+03	--	--	--	--	--	--	--	--	--	--	na	7.1E+03
1,2-trans-dichloroethylene	0	--	--	na	1.0E+04	--	--	na	1.0E+04	--	--	--	--	--	--	--	--	--	--	na	1.0E+04
2,4-Dichlorophenol	0	--	--	na	2.9E+02	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+02
2,4-Dichlorophenoxy acetic acid (2.4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,2-Dichloropropane[C]	0	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
1,3-Dichloropropene [C]	0	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	--	--	--	--	--	--	--	--	na	2.1E+02
Dieldrin [C]	0	2.4E-01	5.6E-02	na	5.4E-04	2.4E-01	5.6E-02	na	5.4E-04	--	--	--	--	--	--	--	--	2.4E-01	5.6E-02	na	5.4E-04
Diethyl Phthalate	0	--	--	na	4.4E+04	--	--	na	4.4E+04	--	--	--	--	--	--	--	--	--	--	na	4.4E+04
2,4-Dimethylphenol	0	--	--	na	8.5E+02	--	--	na	8.5E+02	--	--	--	--	--	--	--	--	--	--	na	8.5E+02
Dimethyl Phthalate	0	--	--	na	1.1E+06	--	--	na	1.1E+06	--	--	--	--	--	--	--	--	--	--	na	1.1E+06
Di-n-Butyl Phthalate	0	--	--	na	4.5E+03	--	--	na	4.5E+03	--	--	--	--	--	--	--	--	--	--	na	4.5E+03
2,4 Dinitrophenol	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+03
2-Methyl-4,6-Dinitrophenol	0	--	--	na	2.8E+02	--	--	na	2.8E+02	--	--	--	--	--	--	--	--	--	--	na	2.8E+02
2,4-Dinitrotoluene [C]	0	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	--	--	--	--	--	--	--	--	na	3.4E+01
Dioxin 2,3,7,8-tetrachlorodibenzo-p-dioxin	0	--	--	na	5.1E-08	--	--	na	5.1E-08	--	--	--	--	--	--	--	--	--	--	na	5.1E-08
1,2-Diphenylhydrazine[C]	0	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	--	--	--	--	--	--	--	--	na	2.0E+00
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	8.9E+01
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	2.2E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	8.9E+01
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	2.2E-01	5.6E-02	--	--	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	--	--
Endosulfan Sulfate	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	na	8.9E+01
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	8.6E-02	3.6E-02	na	6.0E-02	--	--	--	--	--	--	--	--	8.6E-02	3.6E-02	na	6.0E-02
Endrin Aldehyde	0	--	--	na	3.0E-01	--	--	na	3.0E-01	--	--	--	--	--	--	--	--	--	--	na	3.0E-01

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Ethylbenzene	0	--	--	na	2.1E+03	--	--	na	2.1E+03	--	--	--	--	--	--	--	--	--	--	na	**2.1E+03**
Fluoranthene	0	--	--	na	1.4E+02	--	--	na	1.4E+02	--	--	--	--	--	--	--	--	--	--	na	**1.4E+02**
Fluorene	0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	**5.3E+03**
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	**--**
Guthion	0	--	1.0E-02	na	--	--	1.0E-02	na	--	--	--	--	--	--	--	--	--	--	**1.0E-02**	na	**--**
Heptachlor [C]	0	5.2E-01	3.8E-03	na	7.9E-04	5.2E-01	3.8E-03	na	7.9E-04	--	--	--	--	--	--	--	--	**5.2E-01**	**3.8E-03**	na	**7.9E-04**
Heptachlor Epoxide[C]	0	5.2E-01	3.8E-03	na	3.9E-04	5.2E-01	3.8E-03	na	3.9E-04	--	--	--	--	--	--	--	--	**5.2E-01**	**3.8E-03**	na	**3.9E-04**
Hexachlorobenzene[C]	0	--	--	na	2.9E-03	--	--	na	2.9E-03	--	--	--	--	--	--	--	--	--	--	na	**2.9E-03**
Hexachlorobutadiene[C]	0	--	--	na	1.8E+02	--	--	na	1.8E+02	--	--	--	--	--	--	--	--	--	--	na	**1.8E+02**
Hexachlorocyclohexane Alpha-BHC[C]	0	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	--	--	--	--	--	--	--	--	na	**4.9E-02**
Hexachlorocyclohexane Beta-BHC[C]	0	--	--	na	1.7E-01	--	--	na	1.7E-01	--	--	--	--	--	--	--	--	--	--	na	**1.7E-01**
Hexachlorocyclohexane Gamma-BHC[C] (Lindane)	0	9.5E-01	na	na	1.8E+00	9.5E-01	--	na	1.8E+00	--	--	--	--	--	--	--	--	**9.5E-01**	--	na	**1.8E+00**
Hexachlorocyclopentadiene	0	--	--	na	1.1E+03	--	--	na	1.1E+03	--	--	--	--	--	--	--	--	--	--	na	**1.1E+03**
Hexachloroethane[C]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	--	--	na	**3.3E+01**
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	2.0E+00	na	--	--	--	--	--	--	--	--	--	--	**2.0E+00**	na	**--**
Indeno (1,2,3-cd) pyrene [C]	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	**1.8E-01**
Iron	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	**--**
Isophorone[C]	0	--	--	na	9.6E+03	--	--	na	9.6E+03	--	--	--	--	--	--	--	--	--	--	na	**9.6E+03**
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	**0.0E+00**	na	**--**
Lead	0	4.9E+01	5.6E+00	na	--	4.9E+01	5.6E+00	na	--	--	--	--	--	--	--	--	--	**4.9E+01**	**5.6E+00**	na	**--**
Malathion	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	**1.0E-01**	na	**--**
Manganese	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	**--**
Mercury	0	1.4E+00	7.7E-01	--	--	1.4E+00	7.7E-01	--	--	--	--	--	--	--	--	--	--	**1.4E+00**	**7.7E-01**	--	**--**
Methyl Bromide	0	--	--	na	1.5E+03	--	--	na	1.5E+03	--	--	--	--	--	--	--	--	--	--	na	**1.5E+03**
Methylene Chloride [C]	0	--	--	na	5.9E+03	--	--	na	5.9E+03	--	--	--	--	--	--	--	--	--	--	na	**5.9E+03**
Methoxychlor	0	--	3.0E-02	na	--	--	3.0E-02	na	--	--	--	--	--	--	--	--	--	--	**3.0E-02**	na	**--**
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	**0.0E+00**	na	**--**
Nickel	0	1.0E+02	1.1E+01	na	4.6E+03	1.0E+02	1.1E+01	na	4.6E+03	--	--	--	--	--	--	--	--	**1.0E+02**	**1.1E+01**	na	**4.6E+03**
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	**--**
Nitrobenzene	0	--	--	na	6.9E+02	--	--	na	6.9E+02	--	--	--	--	--	--	--	--	--	--	na	**6.9E+02**
N-Nitrosodimethylamine[C]	0	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	--	--	--	--	--	--	--	--	na	**3.0E+01**
N-Nitrosodiphenylamine[C]	0	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	--	--	--	--	--	--	--	--	na	**6.0E+01**
N-Nitrosodi-n-propylamine[C]	0	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	--	--	--	--	--	--	--	--	na	**5.1E+00**
Nonylphenol	0	2.8E+01	6.6E+00	--	--	2.8E+01	6.6E+00	na	--	--	--	--	--	--	--	--	--	**2.8E+01**	**6.6E+00**	na	**--**
Parathion	0	6.5E-02	1.3E-02	na	--	6.5E-02	1.3E-02	na	--	--	--	--	--	--	--	--	--	**6.5E-02**	**1.3E-02**	na	**--**
PCB Total[C]	0	--	1.4E-02	na	6.4E-04	--	1.4E-02	na	6.4E-04	--	--	--	--	--	--	--	--	--	**1.4E-02**	na	**6.4E-04**
Pentachlorophenol [C]	0	3.5E+00	2.7E+00	na	3.0E+01	3.5E+00	2.7E+00	na	3.0E+01	--	--	--	--	--	--	--	--	**3.5E+00**	**2.7E+00**	na	**3.0E+01**
Phenol	0	--	--	na	8.6E+05	--	--	na	8.6E+05	--	--	--	--	--	--	--	--	--	--	na	**8.6E+05**
Pyrene	0	--	--	na	4.0E+03	--	--	na	4.0E+03	--	--	--	--	--	--	--	--	--	--	na	**4.0E+03**
Radionuclides	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	**--**
Gross Alpha Activity (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	**--**
Beta and Photon Activity (mrem/yr)	0	--	--	na	4.0E+00	--	--	na	4.0E+00	--	--	--	--	--	--	--	--	--	--	na	**4.0E+00**
Radium 226 + 228 (pCi/L)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	**--**
Uranium (ug/l)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	**--**

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				**Most Limiting Allocations**			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	**Acute**	**Chronic**	**HH (PWS)**	**HH**
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	2.0E+01	5.0E+00	na	4.2E+03	--	--	--	--	--	--	--	--	**2.0E+01**	**5.0E+00**	**na**	**4.2E+0**
Silver	0	1.0E+00	--	na	--	1.0E+00	--	na	--	--	--	--	--	--	--	--	--	**1.0E+00**	**--**	**na**	**--**
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
1,1,2,2-Tetrachloroethane[C]	0	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.0E+0**
Tetrachloroethylene[C]	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.3E+0**
Thallium	0	--	--	na	4.7E-01	--	--	na	4.7E-01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**4.7E-0**
Toluene	0	--	--	na	6.0E+03	--	--	na	6.0E+03	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**6.0E+0**
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Toxaphene [C]	0	7.3E-01	2.0E-04	na	2.8E-03	7.3E-01	2.0E-04	na	2.8E-03	--	--	--	--	--	--	--	--	**7.3E-01**	**2.0E-04**	**na**	**2.8E-0**
Tributyltin	0	4.6E-01	7.2E-02	na	--	4.6E-01	7.2E-02	na	--	--	--	--	--	--	--	--	--	**4.6E-01**	**7.2E-02**	**na**	**--**
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	7.0E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**7.0E+0**
1,1,2-Trichloroethane[C]	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**1.6E+0**
Trichloroethylene [C]	0	--	--	na	3.0E+02	--	--	na	3.0E+02	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**3.0E+0**
2,4,6-Trichlorophenol [C]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.4E+0**
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**--**
Vinyl Chloride[C]	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	**--**	**--**	**na**	**2.4E+0**
Zinc	0	6.5E+01	6.6E+01	na	2.6E+04	6.5E+01	6.6E+01	na	2.6E+04	--	--	--	--	--	--	--	--	**6.5E+01**	**6.6E+01**	**na**	**2.6E+0**

Notes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
2. Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
3. Metals measured as Dissolved, unless specified otherwise
4. "C" indicates a carcinogenic parameter
5. Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
   Antidegradation WLAs are based upon a complete mix.
6. Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
   = (0.1(WQC - background conc.) + background conc.) for human health
7. WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	6.4E+02
Arsenic	9.0E+01
Barium	na
Cadmium	3.9E-01
Chromium III	2.5E+01
Chromium VI	6.4E+00
Copper	2.8E+00
Iron	na
Lead	3.4E+00
Manganese	na
Mercury	4.6E-01
Nickel	6.8E+00
Selenium	3.0E+00
Silver	4.2E-01
Zinc	2.6E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

Woodberry Forest School Ambient Data					
Station ID	Station Description	Collection Date Time	Field pH	DO Probe	Temp Celsuis
3-RAP045.08	Rt. # 15	2/12/03 9:50 AM	7.01	15.15	2.09
3-RAP045.08	Rt. # 15	3/18/03 9:12 AM	7.08	9.46	13.04
3-RAP045.08	Rt. # 15	4/30/03 10:15 AM	7.27	9.47	16.93
3-RAP045.08	Rt. # 15	5/27/03 8:50 AM	7	8.68	16.68
3-RAP045.08	Rt. # 15	6/17/03 12:15 PM	7.17	8.91	17.93
3-RAP045.08	Rt. # 15	7/14/03 10:14 AM	6.81	8.01	23.53
3-RAP045.08	Rt. # 15	9/4/03 10:30 AM	5.98	7.66	23.65
3-RAP045.08	Rt. # 15	11/20/03 12:30 PM	6.89	10.32	12.1
3-RAP045.08	Rt. # 15	1/22/04 12:03 PM	7.11	15.03	0.6
3-RAP045.08	Rt. # 15	3/11/04 1:55 PM	7.4	10.14	9.98
3-RAP045.08	Rt. # 15	7/13/04 12:13 PM	7.3	6.57	26.02
3-RAP045.08	Rt. # 15	9/9/04 11:00 AM	7.4	6.91	20.79
3-RAP045.08	Rt. # 15	11/8/04 11:15 AM	7.29	11.42	10.71
3-RAP045.08	Rt. # 15	1/26/05 10:30 AM	7.3	13.51	0.55
3-RAP045.08	Rt. # 15	2/9/05 12:15 PM	7.61	11.91	7.84
3-RAP045.08	Rt. # 15	4/12/05 12:30 PM	7.44	9.43	13.43
3-RAP045.08	Rt. # 15	6/22/05 12:30 PM	7.05	8.29	23.26
3-RAP045.08	Rt. # 15	8/18/05 11:00 AM	7.15	8	26.26
3-RAP045.08	Rt. # 15	12/28/05 3:30 PM	7.45	13.82	4.24
3-RAP045.08	Rt. # 15	2/9/06 12:10 PM	7.09	13.23	3.19
3-RAP045.08	Rt. # 15	4/10/06 12:30 PM	7.4	12.6	13.1
3-RAP045.08	Rt. # 15	6/8/06 12:30 PM	7.5	6.8	22.5
3-RAP045.08	Rt. # 15	8/9/06 11:45 AM	7.4	6.7	26.8
		Annual 90th Percentile	7.4	13.8	25.5
		Annual 10th Percentile	6.9		
		Wet Season 90th Percentile			11.0

Wet Season Temps
2.09
12.1
0.6
9.98
10.71
0.55
7.84
4.24
3.19

Attachment 9

DMR QA/QC

Permit #:VA0027839

Facility:Woodberry Forest School

Due	Outfall	Parameter Description	QTY AVG	Lim Avg	QTY MAX	Lim Max	Quantity Unit Lim	CONC MIN	Lim Min	CONC AVG	Lim Avg	CONC MAX	Lim Max
10-Nov-2007	001	BOD5	0.3179	4.4	0.3179	6.6	KG/D	NULL	*********	4	30	4	45
10-Dec-2007	001	BOD5	0.1211	4.4	0.1211	6.6	KG/D	NULL	*********	4	30	4	45
10-Jan-2008	001	BOD5	0.8516	4.4	0.8516	6.6	KG/D	NULL	*********	9	30	9	45
10-Feb-2008	001	BOD5	0.1362	4.4	0.1362	6.6	KG/D	NULL	*********	6	30	6	45
10-Mar-2008	001	BOD5	0.9992	4.4	0.9992	6.6	KG/D	NULL	*********	12	30	12	45
10-Apr-2008	001	BOD5	0.1324	4.4	0.1324	6.6	KG/D	NULL	*********	5	30	5	45
10-May-2008	001	BOD5	0.2649	4.4	0.2649	6.6	KG/D	NULL	*********	5	30	5	45
10-Jun-2008	001	BOD5	0.9652	4.4	0.9652	6.6	KG/D	NULL	*********	15	30	15	45
10-Jul-2008	001	BOD5	0.1059	4.4	0.1059	6.6	KG/D	NULL	*********	2	30	2	45
10-Aug-2008	001	BOD5	0.5677	4.4	0.5677	6.6	KG/D	NULL	*********	15	30	15	45
10-Sep-2008	001	BOD5	0.4352	4.4	0.4352	6.6	KG/D	NULL	*********	5	30	5	45
10-Oct-2008	001	BOD5	1.033	4.4	1.033	6.6	KG/D	NULL	*********	21	30	21	45
10-Nov-2008	001	BOD5	0.1816	4.4	0.1816	6.6	KG/D	NULL	*********	4	30	4	45
10-Dec-2008	001	BOD5	3	4.4	3	6.6	KG/D	NULL	*********	0.2384	30	0.2384	45
10-Jan-2009	001	BOD5	0.1135	4.4	0.1135	6.6	KG/D	NULL	*********	3	30	3	45
10-Feb-2009	001	BOD5	0.4542	4.4	0.4542	6.6	KG/D	NULL	*********	6	30	6	45
10-Mar-2009	001	BOD5	0.1476	4.4	0.1476	6.6	KG/D	NULL	*********	3	30	3	45
10-Apr-2009	001	BOD5	0.1324	4.4	0.1324	6.6	KG/D	NULL	*********	5	30	5	45
10-May-2009	001	BOD5	0.7834	4.4	0.7834	6.6	KG/D	NULL	*********	9	30	9	45
10-Jun-2009	001	BOD5	0.4542	4.4	0.4542	6.6	KG/D	NULL	*********	5	30	5	45
10-Jul-2009	001	BOD5	0.0454	4.4	0.0454	6.6	KG/D	NULL	*********	6	30	6	45
10-Aug-2009	001	BOD5	0.0908	4.4	0.0908	6.6	KG/D	NULL	*********	3	30	3	45
10-Sep-2009	001	BOD5	0.1589	4.4	0.1589	6.6	KG/D	NULL	*********	6	30	6	45
10-Oct-2009	001	BOD5	0.1816	4.4	0.1816	6.6	KG/D	NULL	*********	4	30	4	45
10-Nov-2009	001	BOD5	0.3974	4.4	0.3974	6.6	KG/D	NULL	*********	7	30	7	45
10-Dec-2009	001	BOD5	0.3028	4.4	0.3028	6.6	KG/D	NULL	*********	4	30	4	45
10-Jan-2010	001	BOD5	0.2649	4.4	0.2649	6.6	KG/D	NULL	*********	5	30	5	45
10-Feb-2010	001	BOD5	0.2271	4.4	0.2271	6.6	KG/D	NULL	*********	3	30	3	45
10-Mar-2010	001	BOD5	0.2082	4.4	0.2082	6.6	KG/D	NULL	*********	5	30	5	45
10-Apr-2010	001	BOD5	0.1589	4.4	0.1589	6.6	KG/D	NULL	*********	7	30	7	45
10-May-2010	001	BOD5	1.0295	4.4	1.0295	6.6	KG/D	NULL	*********	17	30	17	45
10-Jun-2010	001	BOD5	0.0908	4.4	0.0908	6.6	KG/D	NULL	*********	2	30	2	45
10-Jul-2010	001	BOD5	0.6132	4.4	0.6132	6.6	KG/D	NULL	*********	9	30	9	45
10-Aug-2010	001	BOD5	0.2119	4.4	0.2119	6.6	KG/D	NULL	*********	4	30	4	45
10-Sep-2010	001	BOD5	0.2081	4.4	0.2081	6.6	KG/D	NULL	*********	5	30	5	45
10-Oct-2010	001	BOD5	0.0908	4.4	0.0908	6.6	KG/D	NULL	*********	2	30	2	45
10-Nov-2010	001	BOD5	0.0529	4.4	0.0529	6.6	KG/D	NULL	*********	2	30	2	45

Attachment 10

10-Dec-2010	001	BOD5	0.1059	4.4	0.1059	6.6	KG/D	NULL	*********	2	30	2	45
10-Jan-2011	001	BOD5	0.3974	4.4	0.3974	6.6	KG/D	NULL	*********	7	30	7	45
10-Feb-2011	001	BOD5	0.3785	4.4	0.3785	6.6	KG/D	NULL	*********	10	30	10	45
10-Mar-2011	001	BOD5	0.4542	4.4	0.4542	6.6	KG/D	NULL	*********	12	30	12	45
10-Apr-2011	001	BOD5	0.2271	4.4	0.2271	6.6	KG/D	NULL	*********	6	30	6	45
10-May-2011	001	BOD5	0.1968	4.4	0.1968	6.6	KG/D	NULL	*********	4	30	4	45
10-Jun-2011	001	BOD5	0.9084	4.4	0.9084	6.6	KG/D	NULL	*********	15	30	15	45
10-Jul-2011	001	BOD5	0.13626	4.4	0.13626	6.6	KG/D	NULL	*********	4	30	4	45
10-Aug-2011	001	BOD5	0.102195	4.4	0.102195	6.6	KG/D	NULL	*********	3	30	3	45
10-Sep-2011	001	BOD5	0.0454	4.4	0.0454	6.6	KG/D	NULL	*********	6	30	6	45
10-Oct-2011	001	BOD5	0.3406	4.4	0.3406	6.6	KG/D	NULL	*********	5	30	5	45
10-Nov-2011	001	BOD5	0.6434	4.4	0.6434	6.6	KG/D	NULL	*********	10	30	10	45
10-Dec-2011	001	BOD5	0.9	4.4	0.9	6.6	KG/D	NULL	*********	11	30	11	45
10-Jan-2012	001	BOD5	0.8	4.4	0.8	6.6	KG/D	NULL	*********	7	30	7	45
10-Feb-2012	001	BOD5	<QL	4.4	<QL	6.6	KG/D	NULL	*********	<QL	30	<QL	45
10-Mar-2012	001	BOD5	0.5	4.4	0.5	6.6	KG/D	NULL	*********	7	30	7	45
10-Apr-2012	001	BOD5	0.2	4.4	0.2	6.6	KG/D	NULL	*********	5	30	5	45
10-May-2012	001	BOD5	<QL	4.4	<QL	6.6	KG/D	NULL	*********	<QL	30	<QL	45
10-Oct-2008	001	BOD5, INFLUENT	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	335	NL
10-Oct-2009	001	BOD5, INFLUENT	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	410	NL
10-Oct-2010	001	BOD5, INFLUENT	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	525	NL
10-Oct-2011	001	BOD5, INFLUENT	NULL	*********	NULL	*********	NULL	NULL	*********	NULL	*********	610	NL
10-Nov-2007	001	PH	NULL	*********	NULL	*********	NULL	7.3	6	NULL	*********	7.7	9
10-Dec-2007	001	PH	NULL	*********	NULL	*********	NULL	7	6	NULL	*********	7.6	9
10-Jan-2008	001	PH	NULL	*********	NULL	*********	NULL	6.6	6	NULL	*********	7.6	9
10-Feb-2008	001	PH	NULL	*********	NULL	*********	NULL	6.8	6	NULL	*********	7.6	9
10-Mar-2008	001	PH	NULL	*********	NULL	*********	NULL	7	6	NULL	*********	7.6	9
10-Apr-2008	001	PH	NULL	*********	NULL	*********	NULL	6.8	6	NULL	*********	7.2	9
10-May-2008	001	PH	NULL	*********	NULL	*********	NULL	6.8	6	NULL	*********	7.6	9
10-Jun-2008	001	PH	NULL	*********	NULL	*********	NULL	6.9	6	NULL	*********	7.6	9
10-Jul-2008	001	PH	NULL	*********	NULL	*********	NULL	6.2	6	NULL	*********	7.8	9
10-Aug-2008	001	PH	NULL	*********	NULL	*********	NULL	6.9	6	NULL	*********	8	9
10-Sep-2008	001	PH	NULL	*********	NULL	*********	NULL	7	6	NULL	*********	7.8	9
10-Oct-2008	001	PH	NULL	*********	NULL	*********	NULL	6.7	6	NULL	*********	7.6	9
10-Nov-2008	001	PH	NULL	*********	NULL	*********	NULL	6.8	6	NULL	*********	7.6	9
10-Dec-2008	001	PH	NULL	*********	NULL	*********	NULL	6.5	6	NULL	*********	7.4	9
10-Jan-2009	001	PH	NULL	*********	NULL	*********	NULL	6.4	6	NULL	*********	7.1	9
10-Feb-2009	001	PH	NULL	*********	NULL	*********	NULL	6.2	6	NULL	*********	6.9	9
10-Mar-2009	001	PH	NULL	*********	NULL	*********	NULL	6.2	6	NULL	*********	6.8	9
10-Apr-2009	001	PH	NULL	*********	NULL	*********	NULL	6.2	6	NULL	*********	7.1	9

10-May-2009	001	PH	NULL	*********	NULL	*********	NULL	6.6	6	NULL	*********	7	9
10-Jun-2009	001	PH	NULL	*********	NULL	*********	NULL	6.9	6	NULL	*********	7.8	9
10-Jul-2009	001	PH	NULL	*********	NULL	*********	NULL	6.8	6	NULL	*********	7.7	9
10-Aug-2009	001	PH	NULL	*********	NULL	*********	NULL	6.8	6	NULL	*********	7.5	9
10-Sep-2009	001	PH	NULL	*********	NULL	*********	NULL	6.2	6	NULL	*********	7.5	9
10-Oct-2009	001	PH	NULL	*********	NULL	*********	NULL	7	6	NULL	*********	7.4	9
10-Nov-2009	001	PH	NULL	*********	NULL	*********	NULL	6.5	6	NULL	*********	7.5	9
10-Dec-2009	001	PH	NULL	*********	NULL	*********	NULL	6.3	6	NULL	*********	7.2	9
10-Jan-2010	001	PH	NULL	*********	NULL	*********	NULL	6.3	6	NULL	*********	6.9	9
10-Feb-2010	001	PH	NULL	*********	NULL	*********	NULL	6.6	6	NULL	*********	7.4	9
10-Mar-2010	001	PH	NULL	*********	NULL	*********	NULL	6.4	6	NULL	*********	7.6	9
10-Apr-2010	001	PH	NULL	*********	NULL	*********	NULL	6.5	6	NULL	*********	7.3	9
10-May-2010	001	PH	NULL	*********	NULL	*********	NULL	6.6	6	NULL	*********	7.5	9
10-Jun-2010	001	PH	NULL	*********	NULL	*********	NULL	7.2	6	NULL	*********	7.7	9
10-Jul-2010	001	PH	NULL	*********	NULL	*********	NULL	7.1	6	NULL	*********	7.8	9
10-Aug-2010	001	PH	NULL	*********	NULL	*********	NULL	7.2	6	NULL	*********	7.7	9
10-Sep-2010	001	PH	NULL	*********	NULL	*********	NULL	6.9	6	NULL	*********	7.7	9
10-Oct-2010	001	PH	NULL	*********	NULL	*********	NULL	7	6	NULL	*********	7.6	9
10-Nov-2010	001	PH	NULL	*********	NULL	*********	NULL	6.6	6	NULL	*********	7.5	9
10-Dec-2010	001	PH	NULL	*********	NULL	*********	NULL	6.8	6	NULL	*********	7.4	9
10-Jan-2011	001	PH	NULL	*********	NULL	*********	NULL	6.1	6	NULL	*********	7.3	9
10-Feb-2011	001	PH	NULL	*********	NULL	*********	NULL	6.1	6	NULL	*********	7.1	9
10-Mar-2011	001	PH	NULL	*********	NULL	*********	NULL	6.1	6	NULL	*********	7.2	9
10-Apr-2011	001	PH	NULL	*********	NULL	*********	NULL	6.5	6	NULL	*********	7.2	9
10-May-2011	001	PH	NULL	*********	NULL	*********	NULL	6.2	6	NULL	*********	7.3	9
10-Jun-2011	001	PH	NULL	*********	NULL	*********	NULL	6.8	6	NULL	*********	7.6	9
10-Jul-2011	001	PH	NULL	*********	NULL	*********	NULL	6.3	6	NULL	*********	7.3	9
10-Aug-2011	001	PH	NULL	*********	NULL	*********	NULL	6.7	6	NULL	*********	7.2	9
10-Sep-2011	001	PH	NULL	*********	NULL	*********	NULL	6.4	6	NULL	*********	7.1	9
10-Oct-2011	001	PH	NULL	*********	NULL	*********	NULL	6.6	6	NULL	*********	7.4	9
10-Nov-2011	001	PH	NULL	*********	NULL	*********	NULL	6.8	6	NULL	*********	7.8	9
10-Dec-2011	001	PH	NULL	*********	NULL	*********	NULL	7.3	6	NULL	*********	8.2	9
10-Jan-2012	001	PH	NULL	*********	NULL	*********	NULL	7	6	NULL	*********	7.8	9
10-Feb-2012	001	PH	NULL	*********	NULL	*********	NULL	6.8	6	NULL	*********	8.1	9
10-Mar-2012	001	PH	NULL	*********	NULL	*********	NULL	7	6	NULL	*********	7.7	9
10-Apr-2012	001	PH	NULL	*********	NULL	*********	NULL	6.9	6	NULL	*********	7.6	9
10-May-2012	001	PH	NULL	*********	NULL	*********	NULL	7	6	NULL	*********	7.4	9
10-Nov-2007	001	TSS	0.3656	4.4	0.3656	6.6	KG/D	NULL	*********	4.6	30	4.6	45
10-Dec-2007	001	TSS	0.0696	4.4	0.0696	6.6	KG/D	NULL	*********	2.3	30	2.3	45
10-Jan-2008	001	TSS	0.352	4.4	0.352	6.6	KG/D	NULL	*********	3.72	30	3.72	45
10-Feb-2008	001	TSS	0.2657	4.4	0.2657	6.6	KG/D	NULL	*********	11.7	30	11.7	45
10-Mar-2008	001	TSS	0.2914	4.4	0.2914	6.6	KG/D	NULL	*********	3.5	30	3.5	45
10-Apr-2008	001	TSS	0.1324	4.4	0.1324	6.6	KG/D	NULL	*********	5	30	5	45

10-May-2009	001	PH	NULL	*********	NULL	*********	NULL	6.6	6	NULL	*********	7	9
10-Jun-2009	001	PH	NULL	*********	NULL	*********	NULL	6.9	6	NULL	*********	7.8	9
10-Jul-2009	001	PH	NULL	*********	NULL	*********	NULL	6.8	6	NULL	*********	7.7	9
10-Aug-2009	001	PH	NULL	*********	NULL	*********	NULL	6.8	6	NULL	*********	7.5	9
10-Sep-2009	001	PH	NULL	*********	NULL	*********	NULL	6.2	6	NULL	*********	7.5	9
10-Oct-2009	001	PH	NULL	*********	NULL	*********	NULL	7	6	NULL	*********	7.4	9
10-Nov-2009	001	PH	NULL	*********	NULL	*********	NULL	6.5	6	NULL	*********	7.5	9
10-Dec-2009	001	PH	NULL	*********	NULL	*********	NULL	6.3	6	NULL	*********	7.2	9
10-Jan-2010	001	PH	NULL	*********	NULL	*********	NULL	6.3	6	NULL	*********	6.9	9
10-Feb-2010	001	PH	NULL	*********	NULL	*********	NULL	6.6	6	NULL	*********	7.4	9
10-Mar-2010	001	PH	NULL	*********	NULL	*********	NULL	6.4	6	NULL	*********	7.6	9
10-Apr-2010	001	PH	NULL	*********	NULL	*********	NULL	6.5	6	NULL	*********	7.3	9
10-May-2010	001	PH	NULL	*********	NULL	*********	NULL	6.6	6	NULL	*********	7.5	9
10-Jun-2010	001	PH	NULL	*********	NULL	*********	NULL	7.2	6	NULL	*********	7.7	9
10-Jul-2010	001	PH	NULL	*********	NULL	*********	NULL	7.1	6	NULL	*********	7.8	9
10-Aug-2010	001	PH	NULL	*********	NULL	*********	NULL	7.2	6	NULL	*********	7.7	9
10-Sep-2010	001	PH	NULL	*********	NULL	*********	NULL	6.9	6	NULL	*********	7.7	9
10-Oct-2010	001	PH	NULL	*********	NULL	*********	NULL	7	6	NULL	*********	7.6	9
10-Nov-2010	001	PH	NULL	*********	NULL	*********	NULL	6.6	6	NULL	*********	7.5	9
10-Dec-2010	001	PH	NULL	*********	NULL	*********	NULL	6.8	6	NULL	*********	7.4	9
10-Jan-2011	001	PH	NULL	*********	NULL	*********	NULL	6.1	6	NULL	*********	7.3	9
10-Feb-2011	001	PH	NULL	*********	NULL	*********	NULL	6.1	6	NULL	*********	7.1	9
10-Mar-2011	001	PH	NULL	*********	NULL	*********	NULL	6.1	6	NULL	*********	7.2	9
10-Apr-2011	001	PH	NULL	*********	NULL	*********	NULL	6.5	6	NULL	*********	7.2	9
10-May-2011	001	PH	NULL	*********	NULL	*********	NULL	6.2	6	NULL	*********	7.3	9
10-Jun-2011	001	PH	NULL	*********	NULL	*********	NULL	6.8	6	NULL	*********	7.6	9
10-Jul-2011	001	PH	NULL	*********	NULL	*********	NULL	6.3	6	NULL	*********	7.3	9
10-Aug-2011	001	PH	NULL	*********	NULL	*********	NULL	6.7	6	NULL	*********	7.2	9
10-Sep-2011	001	PH	NULL	*********	NULL	*********	NULL	6.4	6	NULL	*********	7.1	9
10-Oct-2011	001	PH	NULL	*********	NULL	*********	NULL	6.6	6	NULL	*********	7.4	9
10-Nov-2011	001	PH	NULL	*********	NULL	*********	NULL	6.8	6	NULL	*********	7.8	9
10-Dec-2011	001	PH	NULL	*********	NULL	*********	NULL	7.3	6	NULL	*********	8.2	9
10-Jan-2012	001	PH	NULL	*********	NULL	*********	NULL	7	6	NULL	*********	7.8	9
10-Feb-2012	001	PH	NULL	*********	NULL	*********	NULL	6.8	6	NULL	*********	8.1	9
10-Mar-2012	001	PH	NULL	*********	NULL	*********	NULL	7	6	NULL	*********	7.7	9
10-Apr-2012	001	PH	NULL	*********	NULL	*********	NULL	6.9	6	NULL	*********	7.6	9
10-May-2012	001	PH	NULL	*********	NULL	*********	NULL	7	6	NULL	*********	7.4	9
											90th Percentile	7.8	
											10th Percentile	7.1	
10-Nov-2007	001	TSS	0.3656	*4.4*	0.3656	*6.6*	KG/D	NULL	*********	4.6	*30*	4.6	*45*
10-Dec-2007	001	TSS	0.0696	*4.4*	0.0696	*6.6*	KG/D	NULL	*********	2.3	*30*	2.3	*45*

10-Jan-2008	001	TSS	0.352	4.4	0.352	6.6	KG/D	NULL	*********	3.72	30	3.72	45
10-Feb-2008	001	TSS	0.2657	4.4	0.2657	6.6	KG/D	NULL	*********	11.7	30	11.7	45
10-Mar-2008	001	TSS	0.2914	4.4	0.2914	6.6	KG/D	NULL	*********	3.5	30	3.5	45
10-Apr-2008	001	TSS	0.1324	4.4	0.1324	6.6	KG/D	NULL	*********	5	30	5	45
10-May-2008	001	TSS	0.2702	4.4	0.2702	6.6	KG/D	NULL	*********	5.1	30	5.1	45
10-Jun-2008	001	TSS	0.7657	4.4	0.7657	6.6	KG/D	NULL	*********	11.9	30	11.9	45
10-Jul-2008	001	TSS	0.1112	4.4	0.1112	6.6	KG/D	NULL	*********	2.1	30	2.1	45
10-Aug-2008	001	TSS	0.545	4.4	0.545	6.6	KG/D	NULL	*********	14.4	30	14.4	45
10-Sep-2008	001	TSS	0.4457	4.4	0.4457	6.6	KG/D	NULL	*********	5.1	30	5.1	45
10-Oct-2008	001	TSS	1.235	4.4	1.235	6.6	KG/D	NULL	*********	25.1	30	25.1	45
10-Nov-2008	001	TSS	0.1935	4.4	0.1953	6.6	KG/D	NULL	*********	4.3	30	4.3	45
10-Dec-2008	001	TSS	3.2	4.4	3.2	6.6	KG/D	NULL	*********	0.2543	30	0.2543	45
10-Jan-2009	001	TSS	0.1097	4.4	0.1097	6.6	KG/D	NULL	*********	2.9	30	2.9	45
10-Feb-2009	001	TSS	0.2346	4.4	0.2346	6.6	KG/D	NULL	*********	3.1	30	3.1	45
10-Mar-2009	001	TSS	0.06	4.4	0.06	6.6	KG/D	NULL	*********	1.22	30	1.22	45
10-Apr-2009	001	TSS	0.1695	4.4	0.1695	6.6	KG/D	NULL	*********	6.4	30	6.4	45
10-May-2009	001	TSS	0.4439	4.4	0.4439	6.6	KG/D	NULL	*********	5.1	30	5.1	45
10-Jun-2009	001	TSS	0.3815	4.4	0.3815	6.6	KG/D	NULL	*********	4.2	30	4.2	45
10-Jul-2009	001	TSS	0.0567	4.4	0.0567	6.6	KG/D	NULL	*********	7.5	30	7.5	45
10-Aug-2009	001	TSS	0.0933	4.4	0.0933	6.6	KG/D	NULL	*********	3.08	30	3.08	45
10-Sep-2009	001	TSS	0.1332	4.4	0.1332	6.6	KG/D	NULL	*********	5.03	30	5.03	45
10-Oct-2009	001	TSS	0.0817	4.4	0.0817	6.6	KG/D	NULL	*********	1.8	30	1.8	45
10-Nov-2009	001	TSS	0.2481	4.4	0.2481	6.6	KG/D	NULL	*********	4.37	30	4.37	45
10-Dec-2009	001	TSS	0.2104	4.4	0.2104	6.6	KG/D	NULL	*********	2.78	30	2.78	45
10-Jan-2010	001	TSS	0.1658	4.4	0.1658	6.6	KG/D	NULL	*********	3.13	30	3.13	45
10-Feb-2010	001	TSS	0.2687	4.4	0.2687	6.6	KG/D	NULL	*********	NULL	30	NULL	45
10-Mar-2010	001	TSS	0.2581	4.4	0.2581	6.6	KG/D	NULL	*********	6.2	30	6.2	45
10-Apr-2010	001	TSS	0.1725	4.4	0.1725	6.6	KG/D	NULL	*********	7.6	30	7.6	45
10-May-2010	001	TSS	0.1332	4.4	0.1332	6.6	KG/D	NULL	*********	2.2	30	2.2	45
10-Jun-2010	001	TSS	1.9142	4.4	1.6033	6.6	KG/D	NULL	*********	29.75	30	35.3	45
10-Jul-2010	001	TSS	0.357	4.4	0.357	6.6	KG/D	NULL	*********	5.24	30	5.24	45
10-Aug-2010	001	TSS	0.3359	4.4	0.3359	6.6	KG/D	NULL	*********	6.34	30	6.34	45
10-Sep-2010	001	TSS	0.4063	4.4	0.4063	6.6	KG/D	NULL	*********	9.76	30	9.76	45
10-Oct-2010	001	TSS	0.143	4.4	0.143	6.6	KG/D	NULL	*********	3.15	30	3.15	45
10-Nov-2010	001	TSS	0.0397	4.4	0.0397	6.6	KG/D	NULL	*********	1.5	30	1.5	45
10-Dec-2010	001	TSS	0.1218	4.4	0.1218	6.6	KG/D	NULL	*********	2.3	30	2.3	45
10-Jan-2011	001	TSS	0.21	4.4	0.21	6.6	KG/D	NULL	*********	3.7	30	3.7	45
10-Feb-2011	001	TSS	0.2365	4.4	0.2365	6.6	KG/D	NULL	*********	6.25	30	6.25	45
10-Mar-2011	001	TSS	0.2588	4.4	0.2588	6.6	KG/D	NULL	*********	6.84	30	6.84	45
10-Apr-2011	001	TSS	0.28766	4.4	0.28766	6.6	KG/D	NULL	*********	7.6	30	7.6	45
10-May-2011	001	TSS	0.0787	4.4	0.0787	6.6	KG/D	NULL	*********	1.6	30	1.6	45
10-Jun-2011	001	TSS	0.3331	4.4	0.3331	6.6	KG/D	NULL	*********	5.5	30	5.5	45
10-Jul-2011	001	TSS	0.0783495	4.4	0.0783495	6.6	KG/D	NULL	*********	2.3	30	2.3	45

10-Aug-2011	001	TSS	0.3781215	4.4	0.3781215	6.6	KG/D	NULL	*********	11.1	30	11.1	45
10-Sep-2011	001	TSS	0.0423	4.4	0.0423	6.6	KG/D	NULL	*********	5.59	30	5.59	45
10-Oct-2011	001	TSS	0.2452	4.4	0.2452	6.6	KG/D	NULL	*********	3.6	30	3.6	45
10-Nov-2011	001	TSS	0.386	4.4	0.386	6.6	KG/D	NULL	*********	6	30	6	45
10-Dec-2011	001	TSS	0.33	4.4	0.33	6.6	KG/D	NULL	*********	4	30	4	45
10-Jan-2012	001	TSS	1.17	4.4	1.17	6.6	KG/D	NULL	*********	10.7	30	10.7	45
10-Feb-2012	001	TSS	0.34	4.4	0.34	6.6	KG/D	NULL	*********	8.9	30	8.9	45
10-Mar-2012	001	TSS	1.76	4.4	1.76	6.6	KG/D	NULL	*********	23.2	30	23.2	45
10-Apr-2012	001	TSS	0.27	4.4	0.27	6.6	KG/D	NULL	*********	9	30	9	45
10-May-2012	001	TSS	0.67	4.4	0.67	6.6	KG/D	NULL	*********	8.4	30	8.4	45
10-Nov-2007	002	PH	NULL	*********	NULL	*********	NULL	6.9	6	NULL	*********	6.9	9
10-Dec-2007	002	PH	NULL	*********	NULL	*********	NULL	6.9	6	NULL	*********	6.9	9
10-Jan-2008	002	PH	NULL	*********	NULL	*********	NULL	6.5	6	NULL	*********	6.5	9
10-Feb-2008	002	PH	NULL	*********	NULL	*********	NULL	7.6	6	NULL	*********	7.6	9
10-Mar-2008	002	PH	NULL	*********	NULL	*********	NULL	7.3	6	NULL	*********	7.3	9
10-Apr-2008	002	PH	NULL	*********	NULL	*********	NULL	7.1	6	NULL	*********	7.1	9
10-May-2008	002	PH	NULL	*********	NULL	*********	NULL	7.2	6	NULL	*********	7.2	9
10-Jun-2008	002	PH	NULL	*********	NULL	*********	NULL	7.1	6	NULL	*********	7.1	9
10-Jul-2008	002	PH	NULL	*********	NULL	*********	NULL	6.6	6	NULL	*********	6.6	9
10-Aug-2008	002	PH	NULL	*********	NULL	*********	NULL	6.9	6	NULL	*********	6.9	9
10-Sep-2008	002	PH	NULL	*********	NULL	*********	NULL	6.9	6	NULL	*********	6.9	9
10-Oct-2008	002	PH	NULL	*********	NULL	*********	NULL	6.8	6	NULL	*********	6.8	9
10-Nov-2008	002	PH	NULL	*********	NULL	*********	NULL	6.5	6	NULL	*********	6.5	9
10-Dec-2008	002	PH	NULL	*********	NULL	*********	NULL	6.2	6	NULL	*********	6.2	9
10-Jan-2009	002	PH	NULL	*********	NULL	*********	NULL	6.3	6	NULL	*********	6.3	9
10-Feb-2009	002	PH	NULL	*********	NULL	*********	NULL	6.2	6	NULL	*********	6.2	9
10-Mar-2009	002	PH	NULL	*********	NULL	*********	NULL	6.8	6	NULL	*********	6.8	9
10-Apr-2009	002	PH	NULL	*********	NULL	*********	NULL	6.3	6	NULL	*********	6.3	9
10-May-2009	002	PH	NULL	*********	NULL	*********	NULL	6.7	6	NULL	*********	6.7	9
10-Jun-2009	002	PH	NULL	*********	NULL	*********	NULL	6.7	6	NULL	*********	6.7	9
10-Jul-2009	002	PH	NULL	*********	NULL	*********	NULL	7.5	6	NULL	*********	7.5	9
10-Aug-2009	002	PH	NULL	*********	NULL	*********	NULL	6.2	6	NULL	*********	6.2	9
10-Sep-2009	002	PH	NULL	*********	NULL	*********	NULL	6.9	6	NULL	*********	6.9	9
10-Oct-2009	002	PH	NULL	*********	NULL	*********	NULL	6.9	6	NULL	*********	6.9	9
10-Nov-2009	002	PH	NULL	*********	NULL	*********	NULL	6.3	6	NULL	*********	6.3	9
10-Dec-2009	002	PH	NULL	*********	NULL	*********	NULL	6.1	6	NULL	*********	6.1	9
10-Jan-2010	002	PH	NULL	*********	NULL	*********	NULL	6.1	6	NULL	*********	6.1	9
10-Feb-2010	002	PH	NULL	*********	NULL	*********	NULL	6.9	6	NULL	*********	6.9	9
10-Mar-2010	002	PH	NULL	*********	NULL	*********	NULL	6.3	6	NULL	*********	6.3	9
10-Apr-2010	002	PH	NULL	*********	NULL	*********	NULL	7.6	6	NULL	*********	7.6	9
10-May-2010	002	PH	NULL	*********	NULL	*********	NULL	8.6	6	NULL	*********	8.6	9
10-Jun-2010	002	PH	NULL	*********	NULL	*********	NULL	6.3	6	NULL	*********	6.3	9
10-Jul-2010	002	PH	NULL	*********	NULL	*********	NULL	6.3	6	NULL	*********	6.3	9

10-Aug-2010	002	PH	NULL	*********	NULL	*********	NULL	6.7	6	NULL	*********	6.7	9
10-Sep-2010	002	PH	NULL	*********	NULL	*********	NULL	6.2	6	NULL	*********	6.2	9
10-Oct-2010	002	PH	NULL	*********	NULL	*********	NULL	6.9	6	NULL	*********	6.9	9
10-Nov-2010	002	PH	NULL	*********	NULL	*********	NULL	6.4	6	NULL	*********	6.4	9
10-Dec-2010	002	PH	NULL	*********	NULL	*********	NULL	6.5	6	NULL	*********	6.5	9
10-Jan-2011	002	PH	NULL	*********	NULL	*********	NULL	6.8	6	NULL	*********	6.8	9
10-Feb-2011	002	PH	NULL	*********	NULL	*********	NULL	6.1	6	NULL	*********	6.1	9
10-Mar-2011	002	PH	NULL	*********	NULL	*********	NULL	6.1	6	NULL	*********	6.1	9
10-Apr-2011	002	PH	NULL	*********	NULL	*********	NULL	6.2	6	NULL	*********	6.2	9
10-May-2011	002	PH	NULL	*********	NULL	*********	NULL	6.1	6	NULL	*********	6.1	9
10-Jun-2011	002	PH	NULL	*********	NULL	*********	NULL	6.2	6	NULL	*********	6.2	9
10-Jul-2011	002	PH	NULL	*********	NULL	*********	NULL	6	6	NULL	*********	6	9
10-Aug-2011	002	PH	NULL	*********	NULL	*********	NULL	6.9	6	NULL	*********	6.9	9
10-Sep-2011	002	PH	NULL	*********	NULL	*********	NULL	6.5	6	NULL	*********	6.5	9
10-Oct-2011	002	PH	NULL	*********	NULL	*********	NULL	7	6	NULL	*********	7	9
10-Nov-2011	002	PH	NULL	*********	NULL	*********	NULL	7.5	6	NULL	*********	7.5	9
10-Dec-2011	002	PH	NULL	*********	NULL	*********	NULL	6.5	6	NULL	*********	6.5	9
10-Jan-2012	002	PH	NULL	*********	NULL	*********	NULL	6.4	6	NULL	*********	6.4	9
10-Feb-2012	002	PH	NULL	*********	NULL	*********	NULL	7.1	6	NULL	*********	7.1	9
10-Mar-2012	002	PH	NULL	*********	NULL	*********	NULL	7.1	6	NULL	*********	7.1	9
10-Apr-2012	002	PH	NULL	*********	NULL	*********	NULL	7.2	6	NULL	*********	7.2	9
10-May-2012	002	PH	NULL	*********	NULL	*********	NULL	6.4	6	NULL	*********	6.4	9
10-Nov-2007	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	2.1	30	2.1	60
10-Dec-2007	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	2.5	30	2.5	60
10-Jan-2008	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	15.4	30	15.4	60
10-Feb-2008	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	5.3	30	5.3	60
10-Mar-2008	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	5.4	30	5.4	60
10-Apr-2008	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	14	30	14	60
10-May-2008	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	4.26	30	4.26	60
10-Jun-2008	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	6.3	30	6.3	60
10-Jul-2008	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	6.21	30	6.21	60
10-Aug-2008	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	3.6	30	3.6	60
10-Sep-2008	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	3.2	30	3.2	60
10-Oct-2008	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	6.41	30	6.41	60
10-Nov-2008	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	16.7	30	16.7	60
10-Dec-2008	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	6.56	30	6.56	60
10-Jan-2009	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	5.88	30	5.88	60
10-Feb-2009	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	9.6	30	9.6	60
10-Mar-2009	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	3.1	30	3.1	60
10-Apr-2009	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	25	30	25	60
10-May-2009	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	12.3	30	12.3	60
10-Jun-2009	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	23.5	30	23.5	60
10-Jul-2009	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	7.53	30	7.53	60

10-Aug-2009	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	5.08	30	5.08	60
10-Sep-2009	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	4.3	30	4.3	60
10-Oct-2009	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	13.3	30	13.3	60
10-Nov-2009	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	13.3	30	13.3	60
10-Dec-2009	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	9.15	30	9.15	60
10-Jan-2010	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	3.35	30	3.35	60
10-Feb-2010	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	17.9	30	17.9	60
10-Mar-2010	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	12.1	30	12.1	60
10-Apr-2010	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	3.55	30	3.55	60
10-May-2010	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	9.37	30	9.37	60
10-Jun-2010	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	12.2	30	12.2	60
10-Jul-2010	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	5.46	30	5.46	60
10-Aug-2010	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	5.26	30	5.26	60
10-Sep-2010	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	4.2	30	4.2	60
10-Oct-2010	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	3.2	30	3.2	60
10-Nov-2010	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	6.2	30	6.2	60
10-Dec-2010	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	9.52	30	9.52	60
10-Jan-2011	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	10.4	30	10.4	60
10-Feb-2011	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	6.4	30	6.4	60
10-Mar-2011	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	2.84	30	2.84	60
10-Apr-2011	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	9.41	30	9.41	60
10-May-2011	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	7.42	30	7.42	60
10-Jun-2011	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	7.66	30	7.66	60
10-Jul-2011	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	5	30	5	60
10-Aug-2011	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	3.6	30	3.6	60
10-Sep-2011	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	9.49	30	9.49	60
10-Oct-2011	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	8.65	30	8.65	60
10-Nov-2011	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	12.1	30	12.1	60
10-Dec-2011	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	14.2	30	14.2	60
10-Jan-2012	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	9.6	30	9.6	60
10-Feb-2012	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	4.23	30	4.23	60
10-Mar-2012	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	6.6	30	6.6	60
10-Apr-2012	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	2.7	30	2.7	60
10-May-2012	002	TSS	NULL	*********	NULL	*********	NULL	NULL	*********	10.6	30	10.6	60

SAH File

MEMORANDUM

State Water Control Board

2111 North Hamilton Street P. O. Box 11143 Richmond, VA. 23230

SUBJECT: Woodberry Forest School; Madison Co.

TO: File

FROM: Gary N. Moore

DATE: October 29, 1973

COPIES:

Ka_{30} = .366
Kd_{30} = .2 x 1.48 = .296
Critical Flow = .043 cfs/sq. mi. (Rapidan River near Culpeper)
D.A. above discharge = 111 + 70 = 180 mi^2
Flow of Rapidan River at POD = $\frac{181 \times .043}{1.55}$ = 5 MGD

D.A. of Robinson River = 180 mi^2 above gaging station on the Robinson River near Locust Dale
D.A. between gaging station and confluence with Rapidan R. = 13.9 mi^2
Critical flow of Robinson River = .05 cfs/sq.mi.
Flow of Robinson River = $\frac{194 \times .05}{1.55}$ = 6.26 MGD

D.A. above Orange STP = D.A. above Woodberry Forest - D.A. between Orange STP and Woodberry Forest = 181 - 7.5 = 173.5 mi^2
X_{1-2} between Orange STP and Woodberry Forest = 4.7 mi.
Orange STP: .49 MGD, 29 mg/1 BOD

GNM/rd

Attachment 11

MEMORANDUM

State Water Control Board

2111 North Hamilton Street | P. O. Box 11143 | Richmond, VA. 23230

SUBJECT: Madison Co; [redacted]

TO: File

FROM: Gary N. Moore

DATE: October 16, 1973

COPIES:

STREAM SANITATION ANALYSIS

PROPOSED DISCHARGE

Process:

Hydraulic Load	.055 MGD	
Raw Sewage BOD	277 mg/l;	127 lb/day
Degree of Treatment	91 %	
Final Effluent BOD	25 mg/l;	11.5 lb/day

Comments (unusual waste constituents, upstream or downstream discharges, etc.) 91% will be an average of 4 previous BOD tests done. COH accepts this figure.

RECEIVING STREAM

Name: Rapidan River

Basin Rappahannock Section: 4 III A

Stream Uses: Public or municipal water supply; Recreation; Propagation ~~by~~ of fish, shellfish and wildlife; Agriculture; Industrial water supply

Stream Standards:

Minimum D. O.	4.0 mg/l
Maximum Coliform Count	~~1000 per 100 ml and 2400 per 100 ml~~ MPN/100 ml (Monthly Mean)
pH Range	6-8.5
Maximum Temperature	90 °F
Other	

Drainage area above point of discharge 131 square miles

Minimum mean seven consecutive day discharge with a ten year recurrance interval [redacted] cfs. (Based on a critical discharge of .0143 cfs/sm at the gaging station Rapidan R. near Culpeper).

Stream miles to next major tributary 24 miles to Robinson R.

Mean stream bed slope _____ f/f

Mean stream depth _____ f

Mean stream width _____ f

Comments (nature of stream, etc.)

Orange STP

BOD 38
DO 6
Q .49MGD

29 mg/1 BOD cert.

BOD 5.9
DO 6.45
Q 5.29

Tc = 2.36
Dc = 2.37
Da = 1.15

x = 4.7 mi.
v = .3 ft/sec.
t = .96

BOD 4.45
DO 5.6
Q 5.29

Deficit 2.0

Rapidan River
At Woodberry
Forest

BOD 4.38
DO 5.64
Q 5.~~553~~ 498

4.66

BOD 4.~~38~~
DO 5.~~64~~
Q 5.553

BOD 2.6
DO 6.5
Q 4.8

Rapidan River at
Orange STP

$Q = \frac{173.5 \text{ mi}^2 * .043}{1.55} = 4.8 \text{ MGD}$

$Ka_{30} = .366$
$Kd_{30} = .296$

BOD= 2.6
DO = 6.5
Q = .208

Stretch flow

$Q = \frac{7.5 * .043}{1.55}$

BOD 32.5
DO 6.8
Q .055

Woodberry Forest
School 91% BOD
Removal 25 mg/1

Mass balance for Woodberry Forest & Rapidon River

BOD	4.66
DO	5.64
Q	5.553

Da=1.96
tc=1.53
Dc=2.39

x=2.4 mi
v=.3
t=.49

BOD	4
DO	5.39
Q	5.553

deficit=2.21

Confluence w/Robinson River

BOD	3.98
DO	5.40
Q	5.636

BOD	3.25
DO	5.98
Q	11.896

Da=1.62
tc=1.24
Dc=1.82
v =.3ft.sec.$^{-1}$
Xc=6.8 mi.

Dc-Da
1.82-1.62=.2

meet non-degradation in Rapidon R

BOD	2.6
DO	6.5
Q	.0832

Stretch flow
3 mi.

BOD	2.6
DO	6.5
Q	6.26

Robinson River
Ka_{30} = .366

Kd_{30} = .296

Mixing Zone Predictions for Woodberry Forest School

DEC - JUN

Effluent Flow = 0.039 MGD
Stream 7Q10 = 29.8 MGD
Stream 30Q10 = 39.5 MGD
Stream 1Q10 = 24.2 MGD
Stream slope = 0.0014 ft/ft
Stream width = 120 ft
Bottom scale = 2
Channel scale = 1

Mixing Zone Predictions @ 7Q10

Depth = .7036 ft
Length = 25143.3 ft
Velocity = .547 ft/sec
Residence Time = .532 days

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 7Q10 may be used.

Mixing Zone Predictions @ 30Q10

Depth = .8338 ft
Length = 21795.72 ft
Velocity = .6117 ft/sec
Residence Time = .4124 days

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 30Q10 may be used.

Mixing Zone Predictions @ 1Q10

Depth = .6208 ft
Length = 27935.14 ft
Velocity = .5037 ft/sec
Residence Time = 15.4064 hours

Recommendation:

A complete mix assumption is appropriate for this situation providing no more than 6.49% of the 1Q10 is used.

Attachment 12

Mixing Zone Predictions for Woodberry Forest School

Jul - Nov

Effluent Flow = 0.039 MGD
Stream 7Q10 = 6.57 MGD
Stream 30Q10 = 9.70 MGD
Stream 1Q10 = 5.50 MGD
Stream slope = 0.0014 ft/ft
Stream width = 100 ft
Bottom scale = 2
Channel scale = 1

Mixing Zone Predictions @ 7Q10

Depth = .3171 ft
Length = 34049.94 ft
Velocity = .3227 ft/sec
Residence Time = 1.2214 days

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 7Q10 may be used.

Mixing Zone Predictions @ 30Q10

Depth = .4004 ft
Length = 28003.07 ft
Velocity = .3765 ft/sec
Residence Time = .8607 days

Recommendation:

A complete mix assumption is appropriate for this situation and the entire 30Q10 may be used.

Mixing Zone Predictions @ 1Q10

Depth = .2851 ft
Length = 37216.86 ft
Velocity = .3007 ft/sec
Residence Time = 34.3755 hours

Recommendation:

A complete mix assumption is appropriate for this situation providing no more than 2.91% of the 1Q10 is used.

7/5/2012 2:55:42 PM

Facility = Woodberry Forest School (001)
Chemical = Ammonia
Chronic averaging period = 30
WLAa = 109
WLAc = 582
Q.L. = 0.2
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 9
Variance = 29.16
C.V. = 0.6
97th percentile daily values = 21.9007
97th percentile 4 day average = 14.9741
97th percentile 30 day average= 10.8544
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

9

7/5/2012 4:48:34 PM

Facility = Woodberry Forest School (002)
Chemical = Chlorine
Chronic averaging period = 4
WLAa = 0.019
WLAc = 0.011
Q.L. = 0.1
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = .2
Variance = .0144
C.V. = 0.6
97th percentile daily values = .486683
97th percentile 4 day average = .332758
97th percentile 30 day average= .241210
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity
Maximum Daily Limit = 1.60883226245855E-02
Average Weekly limit = 1.60883226245855E-02
Average Monthly LImit = 1.60883226245855E-02

The data are:

0.2

Public Notice – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of treated wastewater into a water body in Madison County, Virginia.

PUBLIC COMMENT PERIOD: TBD, 2012 to 5:00 p.m. on TBD, 2012

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Wastewater issued by DEQ, under the authority of the State Water Control Board

APPLICANT NAME, ADDRESS AND PERMIT NUMBER: Woodberry Forest School
P.O. Box 10, Woodberry Forest, VA 22989
VA0027839

NAME AND ADDRESS OF FACILITY: Woodberry Forest School
P.O. Box 10, Woodberry Forest, VA 22989

PROJECT DESCRIPTION: Woodberry Forest School has applied for a reissuance of a permit for the private Woodberry Forest School Wastewater Treatment Plant and Water Treatment Plant. The applicant proposes to release treated sewage wastewaters from private school facilities and treated industrial wastewaters at a rate of 0.039 million gallons per day and 0.008 million gallons per day, respectively, into a water body. Sludge from the treatment process will be transported to either the Remington WWTP (VA0076805) or the Rapidan WWTP (VA0090948) for further treatment and final disposal. The facility proposes to release the treated sewage and treated industrial wastewaters in the Rapidan River and Rapidan River, UT, respectively, in Madison County in the Rappahannock River watershed. A watershed is the land area drained by a river and its incoming streams. The permit will limit the following pollutants to amounts that protect water quality: pH, Biochemical Oxygen Demand, Total Suspended Solids, Dissolved Oxygen, Total Residual Chlorine and *E. coli.*

HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments and requests for public hearing by e-mail, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for a public hearing, and there are substantial, disputed issues relevant to the permit.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION: The public may review the documents at the DEQ-Northern Regional Office by appointment or may request electronic copies of the draft permit and fact sheet.

Name: Douglas Frasier
Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193
Phone: (703) 583-3873 Email: Douglas.Frasier@deq.virginia.gov Fax: (703) 583-3821

Attachment 15

Revised 2/2003

State "Transmittal Checklist" to Assist in Targeting
Municipal and Industrial Individual NPDES Draft Permits for Review

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name:	Woodberry Forest School
NPDES Permit Number:	VA0027839
Permit Writer Name:	Douglas Frasier
Date:	21 August 2012

Major [ ] **Minor** [X] **Industrial** [X] **Municipal** [X]

I.A. Draft Permit Package Submittal Includes:	**Yes**	**No**	**N/A**
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	X		
3. Copy of Public Notice?	X		
4. Complete Fact Sheet?	X		
5. A Priority Pollutant Screening to determine parameters of concern?	X		
6. A Reasonable Potential analysis showing calculated WQBELs?	X		
7. Dissolved Oxygen calculations?	X		
8. Whole Effluent Toxicity Test summary and analysis?			X
9. Permit Rating Sheet for new or modified industrial facilities?	X		

I.B. Permit/Facility Characteristics	**Yes**	**No**	**N/A**
1. Is this a new, or currently unpermitted facility?		X	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		
3. Does the fact sheet **or** permit contain a description of the wastewater treatment process?	X		
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		X	
5. Has there been any change in streamflow characteristics since the last permit was developed?		X	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		X	
7. Does the fact sheet **or** permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8. Does the facility discharge to a 303(d) listed water?	X		
a. Has a TMDL been developed and approved by EPA for the impaired water?	X		
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?			X
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?	X		
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?	X		
10. Does the permit authorize discharges of storm water?		X	

I.B. Permit/Facility Characteristics – cont.	Yes	No	N/A
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		X	
12. Are there any production-based, technology-based effluent limits in the permit?	X		
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		X	
14. Are any WQBELs based on an interpretation of narrative criteria?	X		
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	
16. Does the permit contain a compliance schedule for any limit or condition?		X	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?	X		
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	X		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
20. Have previous permit, application, and fact sheet been examined?	X		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Checklist – for POTWs
(To be completed and included in the record only for POTWs)

II.A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

II.B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?	X		

II.C. Technology-Based Effluent Limits (POTWs)	Yes	No	N/A
1. Does the permit contain numeric limits for ALL of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS, and pH?	X		
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?	X		
a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			X
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?	X		
4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly) limits?	X		
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?		X	
a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			X

II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?			X
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a "reasonable potential" evaluation was performed?	X		
a. If yes, does the fact sheet indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?	X		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	X		
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?	X		
d. Does the fact sheet indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?			X
e. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?	X		

II.D. Water Quality-Based Effluent Limits – cont.	Yes	No	N/A
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		
6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established?	X		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	X		
8. Does the record indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?	X		

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?	X		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?		X	
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?		X	
4. Does the permit require testing for Whole Effluent Toxicity?		X	

II.F. Special Conditions	Yes	No	N/A
1. Does the permit include appropriate biosolids use/disposal requirements?	X		
2. Does the permit include appropriate storm water program requirements?			X

II.F. Special Conditions – cont.	Yes	No	N/A
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?	X		
5. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?		X	
6. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?			X
a. Does the permit require implementation of the "Nine Minimum Controls"?			X
b. Does the permit require development and implementation of a "Long Term Control Plan"?			X
c. Does the permit require monitoring and reporting for CSO events?			X
7. Does the permit include appropriate Pretreatment Program requirements?			X

II.G. Standard Conditions	Yes	No	N/A
1. Does the **permit** contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	X		

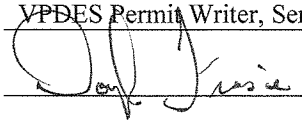
List of Standard Conditions – 40 CFR 122.41

Duty to comply	Property rights	Reporting Requirements
Duty to reapply	Duty to provide information	Planned change
Need to halt or reduce activity not a defense	Inspections and entry	Anticipated noncompliance
	Monitoring and records	Transfers
Duty to mitigate	Signatory requirement	Monitoring reports
Proper O & M	Bypass	Compliance schedules
Permit actions	Upset	24-Hour reporting
		Other non-compliance

2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?	X		

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	Douglas Frasier
Title	VPDES Permit Writer, Senior II
Signature	
Date	21 August 2012